



Cornell University Library

THE GIFT OF

J. S. Schurman

A.232.29.

7/III/09.

3513-2

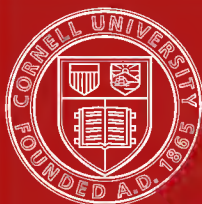
Cornell University Library
QH 366.P32

No struggle for existence, no natural se



3 1924 003 047 580

mann



Cornell University
Library

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

<http://www.archive.org/details/cu31924003047580>

No Struggle for Existence
No Natural Selection

No Struggle for Existence No Natural Selection

*A Critical Examination of the Fundamental
Principles of the Darwinian Theory*

BY

GEORGE PAULIN

EDINBURGH : T. & T. CLARK, 38 GEORGE STREET

1908 *ec*

F

Printed by

MORRISON & GIBB LIMITED,

FOR

T. & T. CLARK, EDINBURGH.

LONDON : SIMPSON, MARSHALL, HAMILTON, KENT, AND CO. LIMITED.

NEW YORK : CHARLES SCRIBNER'S SONS.

PREFACE

TO the majority of those who glance at the title of this book, it may appear that I have undertaken a useless labour in writing it. But no one willingly or intentionally sets himself to the task of writing a book which he is not himself convinced will serve some useful purpose. They tell me that the theory which has become the creed of Science having obtained the general consensus of the civilised world and in view of its long undisputed acceptance, it is much too late in the day to examine into its foundations and place them under critical review. What, however, encourages me to think that I have not been too late in entering upon this field of inquiry, and of subjecting what Science calls its creed to a critical investigation, is my perception of the fact that no one, so far as I am aware, has ever before inquired into and examined the fundamental principles of the Darwinian Theory. This may seem, at this time of day, to be a most extraordinary statement to make, but it is one which, I am assured, will be found, when due consideration is given to it, to be absolutely true. Even when the conflict raged at its hottest betwixt Darwin and the opponents of Evolution, the latter,

being in truth too much occupied with assailing other points of his doctrine, did not attack his fundamental principle of the Struggle for Existence, while the men of science who were in agreement with him accepted the principle as an axiomatic statement requiring neither investigation nor verification. It has therefore fallen to me to do what scientists have all along neglected to do, namely, to inquire if there really is, in Nature, such a struggle for existence as Darwin has formulated and stated to be the universal experience of life. In proceeding to my inquiry, what caused me no small surprise was the very insufficient grounds upon which Darwin based his universal struggle. "A struggle for existence," he pronounces, "follows from the high rate at which all organic beings tend to increase." "Hence, as more individuals are produced than can possibly survive, there *must, in every case,* be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life." I looked for the signs and evidences of such a struggle as is here affirmed to be inevitable. But sign or evidence of its being in progress I saw none. I perceived nowhere the reign of tooth and claw, except in the single case where carnivorous creatures are seeking their food from God, where no fear is felt by their prey, and death is ever prompt. I saw nowhere starvation working havoc among creatures unable to obtain sustenance from being less fitted than their fellows to find food and live. Neither did I

perceive the inevitableness of a struggle for existence so terrible and so universal as Darwin has described, from the fact of there being more individuals produced than can possibly survive. In asserting such a struggle to be inevitable from such a cause, Darwin altogether left out of account the possibility that, in order to avert so fearful a state of matters as he has described, Nature might have some arrangement for eliminating her excess of reproduction, without suffering and without internecine conflict. But to credit Nature with any arrangement or plan having a bearing upon the wellbeing of her children was opposed to the first principles of Darwin's mind. He regarded Nature as a blind agent uninformed by any principle of intelligence or design, or rather, as the field of action upon which the individual fought, in agonised endeavour, its fateful struggle for death or life if haply it might be found the fittest to survive. Believing, as I do, in a moral basis to the universe, and therefore convinced that Darwin's conception of the cruelty of Nature to her sentient offspring is wholly mistaken, and that she must have some principle of elimination of her excessive reproduction that is in harmony with a considerate regard for her offspring's wellbeing and happiness, I set myself to the task of discovering in what this principle of elimination consists. Darwin supported his belief in his struggle for existence by bringing forward the fact that the vigorous carnivora are very prolific, and that the means by which their numbers are kept within due bounds

are so obscure that in no single instance have they come within the scope of man's knowledge. This ignorance of what checked the growth of the prolific carnivora he considered a sufficient justification for his assertion that in regard to all life there must in every case be a struggle for existence. That my endeavour to discover Nature's method of elimination in regard to all prolific vertebrates is founded upon the amplest possible evidence, can scarcely, I think, be disputed. Neither can it be disputed that in the elimination which I have shown to be Nature's method of averting a Darwinian struggle for existence the survival is not of the fittest but of the average, and is in no sense dependent upon individual qualities or the presence of fortunate variations.

I might have rested my whole case against Darwin's theory of Natural Selection upon the ascertained fact that Nature exhibits no principle of selection, and makes no use of individual variations, whether fortunate or injurious, in eliminating her excess of reproduction, while she preserves in every case a sufficient number of individuals to continue her various species in undiminished numbers.

But it appeared to me that an elaborated theory whose fundamental and vivifying principle was a demonstrably false assumption must itself, when examined in detail, be found to be an extraordinary concatenation of weird concepts, of sins against logic and common sense, of criminal violations of Nature's known laws, and of audacious and indefensible asser-

tions. My investigation proved it to be so, a rotten tenement tottering in its every joint—a ship tumbling helplessly on the brine, leaking at every plank.

In the chapter entitled “Natural Selection” I have stated my belief in the doctrine of Evolution, according to which the higher forms of life have been evolved from lower forms, and I have accepted the received opinion that the higher vertebrates were once fish forms disporting in the tepid waters of an earlier world.

Short as the time is that has elapsed between the body of this work having passed through the press and the writing of this Preface, I have found strong and to myself incontrovertible reasons for reconsidering my views in regard to the doctrine of a material evolution from lower to higher forms of life. What these reasons are which have constrained me, a life-long evolutionist, now touching upon man’s allotted span of life, to alter my previous convictions, I will state in terms as concise as possible with a due regard to necessary clearness.

The only evolutionary power of Nature known to true Science is that which is exerted by its changed environment, when by any compelling cause a group of animals (for I am dealing with animated Nature only) is forced to migrate and come under new external conditions. This is the principle of Lamarck, according to which the new material environment, from its every several feature, from the form and configuration of the country, from the nature, colour,

and formation of its rocks, deserts, plains, mountains and elevated plateaus, from the wealth or want of vegetation with its lights and shadows, from its climatic conditions, even from the food which it furnishes, is constantly exerting and raining down modifying influences upon the species that by its migration has newly come under it, and is changing in a uniform manner all the individuals of the species, so that no single individual can escape from its established specific bond.

Lamarck held, and rightly held, that under the new environment into which a migrated species was brought certain changes in its habits must take place, so as to call into play new functional activities, and entail the suspension of some old functions. Thus certain structural elements would be developed, while others from want of use would become atrophied and dwindle into rudimentary proportions. It was his belief also, whether rightly or wrongly I cannot say, that this modifying potency of changed external conditions was sufficient to account for the differentiation of all living organisms into the diverse forms which now exist upon the surface of the globe.

No reasonable doubt, in my opinion, can be entertained that to the modifying influence of changed external conditions are due all the differentiations that exist between the several species that have been derived from a common ancestor, to wit, the generic form which was the origin of the family to which all the related species belong.

Let us suppose a group or section of the old form severed from the main body by changes of the earth's surface and so removed to a new habitat, it would at once be encompassed and laid hold of by the modifying influences of its changed material surroundings, and would in this manner be adapted to its new environment. When we think of the innumerable changes that the earth's surface has undergone, owing to depressions and elevations, now turning seabeds into dry land, now sinking dry land so as to form seabeds, it will at once seem probable that all the various species of a family derived from an old and now extinct genus owe their existing specific differentiations to having been frequently compelled to migrate, and frequently brought under new external conditions.

According to this principle of evolution (the only one, I repeat, of which Science has any certain knowledge), organic beings are mere passive recipients of the modifying forces of Nature, without possessing in themselves the slightest power of choosing on their own account what is good or beneficial for their particular organic development.

But while, from the results of observation and experience, we can thus reasonably infer that the evolutionary power of Nature has acted from the genus that founded the family group modifying the species derived from it, Nature's evolutionary agency, so far as we can trace its effects, appears unable to pass beyond the bounds of a family so as to originate a new generic type.

We see in every geological era evidence of ascent in the scale of organic being, and we can trace it rising ever upward, from geologic age to geologic age, until it ends in man. It has been the habit of Darwinians to speak confidently of the unbroken chain of life from Palæozoic forms up to the appearance of man. But in truth there is no such chain. Wherever we come to a critical point, the appearance, that is to say, of a new generic type, the link that should connect it with an antecedent lower form, is wholly wanting. From bottom to top of the ascending scale of life the geologic record does not convey to our mind the slightest hint or suggestion that higher forms of life have been evolved from lower forms.

This is especially remarkable when some absolutely different and, in respect to the older forms, entirely heterogeneous form appears, such as a true fish in the midst of molluscs and crustaceans. The first fish that so appears is, in regard to its external form and internal structure, as perfectly developed as are the later fish forms, having no correspondence with any antecedent form of life, and preceded by no half-way form prophetic of its emergence.

It is the same with respect to bird forms, which from their first appearance on the stage of organic existence exhibit all the essential characteristics of the developed bird. Some years ago a fossil feather was discovered in a rock system which at the time of the discovery was supposed to have been destitute of feathered life, but in which a few bird forms have

since been found. This feather is as perfect as are those of the present-day eagle.

We are informed that mammals have been developed from fish forms. It is pointed out that fishes, birds, and mammals are all built on the same plan, and have all the same skeleton, modified only so far as to be adapted in each case to the requirements of their mode of existence. This is, of course, important and interesting, but in the absence of all other signs it does not help us in our endeavour to ascertain how the evolution from one form to another took place. I do not know that any Darwinian has attempted to explain how the process of evolution towards a mammal structure could have begun in a fish and continued to a consummation.

It would be interesting from a scientific point of view to peruse an intelligent, even if purely conjectural, disquisition as to how much was done under the water and how much was left to be finished on land, and at what point of development and in what manner the organism left the water to begin its life on the land. There is not by any means the same perplexing problem when we seek to account for the transference of mammals from a land existence to a life in the deep sea, such as has happened in the case of whales and porpoises. We have only to assume that certain amphibious mammals were created or evolved whose habitats were by the sea, which gradually became more and more aquatic in their habits, becoming thereby more adapted to a life in

and under the sea, until they left the land altogether and plunged into the water, where their forms became further modified to suit their mode of life. But in the case of these organic forms their original structure, adapted primarily for life on land, is still preserved in more or less rudimentary fashion, whilst, unlike true fishes, they cannot live without rising at short intervals to inflate their lungs with fresh supplies of air, and still remain true mammals, bringing forth their young alive and suckling them.

But the earliest forms of mammal vertebrates are perfectly finished forms, and do not smell of the sea. Beyond the skeleton they have no structural or other affinities with any kind of fishes.

I now address myself to the orthodox Darwinian, who believes in Natural Selection as the evolutionary power of Nature.

I do not ask him to solve the hopelessly insoluble problem of how mammal forms were developed from fish forms, but I insist on his explaining how the earliest mammalia came to manifestation, without father or mother, without having their appearance on the stage of organic life heralded by a series of forms in the making, from the fish to the mammal.

Let us take into intelligent consideration Darwin's doctrine of Natural Selection and its long-drawn-out processes.

The individual of a species who is starting on the path of further development, by reason of its possessing a variation superior to those possessed by

the common form, acquires in the course of ages a numerical ascendancy over what¹ was the common form until the latter is finally exterminated, and individuals possessed of the superior variation become themselves the common form. Thus one form supersedes another.

But in the ages during which one form has been superseded by another the evolutionary gain has only been an infinitesimal accretion of something that is beneficial to the organism alone which, possessing it from the beginning, had the intelligence to select it.

A long succession of similar infinitesimal accretions follows, all of secular duration. After hundreds, perhaps many hundreds, of such secular periods, each adding its infinitesimal accretion, the result is a form sufficiently distinct and differentiated from that which we have seen starting on the path of development to entitle it to be considered a new species.

Now, how vast must have been the number, I will not say of new forms each with its infinitesimal accretion, but of new specific forms, each the resultant of the hundreds of infinitesimal accumulations that were required to give it its differentiation from the species from which it was evolved, that followed each other in succession while the fish was being developed into the mammal? How vast, I ask, must have been the number of distinct specific forms that marked this period of evolution?

Some geologists have averred that a period of one hundred million years, which they are of opinion

must be regarded as the utmost limit of time that can be assigned to life upon the earth's surface since it became sufficiently refrigerated to admit of any kind of life existing, would be far too short for the action of Natural Selection to achieve the enormous amount of differentiation that exists between the multitudinous forms of life upon the globe.

When we set ourselves to consider the slowness of the processes of Natural Selection, we cannot but think that those who hold this opinion are more than justified.

In a letter written on the 29th January 1906 to Professor Orr of Glasgow, Lord Kelvin says: "You will find a good deal more on the subject of later date than the passage to which you refer, in pages 10 to 131, volume ii., of my *Popular Lectures and Addresses*, and in *Phil. Mag.*, 1899, first half-year, page 66, making a strong body of evidence that the age of the earth as an abode fitted for life cannot probably be vastly greater than twenty million years."

If we accept Lord Kelvin's estimate of the probable lapse of time from the first beginning of life till the present day, and also give credence to Darwin's account of the processes of Natural Selection, and take into consideration the vastness of the space necessary to be traversed in the evolution of the fish into a mammal by a series of infinitesimal accretions, each of secular duration, the period of twenty million years seems scarcely too long for the achievement of this one evolution.

But let us assume that a period of one million years sufficed to accomplish it; is it possible, I ask, if such evolution really took place, to believe that the geological record should contain no evidence or indication of its having taken place, and should not show occasional intermediate forms to intimate the advance that was in progress while the one form was being developed into the other?

It is not possible to believe this. It were preposterous to believe it. When Darwin attempted to explain away the import of the fact that no intermediate forms showing the ascent of life from lower to higher forms were represented by fossil specimens in the geological record, by directing attention to the imperfection of that record, the acceptance of his explanation was a monumental evidence of his ascendancy over the minds of his contemporaries.

For, according to Darwin's own showing, the number of intermediate forms due to the action of Natural Selection must have been vastly more numerous than the finished forms. Now the imperfection of the geological record does not tell more strongly against the preservation of intermediate forms than it does against the preservation of finished forms. It would therefore be not less than miraculous that while finished forms were yielded to geological research in large and growing numbers, not a single intermediate form pointing to the origin of a finished generic form should emerge, if Darwin's intermediate forms had ever existed.

Yet this is what has happened. The geological record reveals to-day many times the number of finished forms which it contained when Darwin wrote, yet it still remains a *tabula rasa* in regard to intermediate forms. Nothing intervenes between the molluscs and crustaceans to help us to understand whence and how the first fish forms were evolved, nothing between fishes and the first bird forms and the first mammals to indicate how they were built up.

The condition of the geological record shrieks out the most emphatic refutation of Darwin's doctrine of Natural Selection as the evolutionary power of Nature.

There are no means of evading or escaping from the conclusion that if there has been a physical evolution from lower to higher forms of organic life, its processes must have been of so rapid a character as to leave no impress of them on the sands of time.

But even the most rapid form of evolution of which I can conceive or conjecture fails to account for, or even render remotely explicable, the sudden appearance among heterogeneous organisms of finished fish forms, finished bird forms, and finished mammals.

These considerations to me, a lifelong evolutionist, have proved of a highly disconcerting nature; for I have always taught myself to regard the doctrine of evolution from lower to higher organic forms as a more elevated conception of creative energy than would be the direct intervention of Deity through

special acts of creation ; and even now I find myself unable to depart from this belief. Nature most clearly and with no uncertain voice proclaims that if there has been evolution from lower to higher forms it has not been by slow and gradual processes ; for such processes could by no possibility have left the geological record a *tabula rasa* in the matter of intermediate forms.

If I be asked in what conclusion, then, do I rest, I can only answer, in this, that I know nothing. The way of God in creation baffles me by its mystery. Of the mode of evolution Nature tells us nothing.

I must in all honesty confess that logically, as the matter presents itself to my mind, the argument is in favour of those who believe in the doctrine of special creations as our fathers believed in it.

Though the doctrine does not recommend itself to me and I am unable to accept it, I am nevertheless constrained to acknowledge that it does not seem more difficult to accept it than to believe in the imparting of the principle of life to the first monocellular bit of protoplasm : for this was nothing less than a special act of creation.

The graduated scale in the ascent of being from the earliest organic forms to its crowning point in man, reveals to a certain degree the thought of God in His scheme of creation, while it still leaves in deepest obscurity the method and processes of the Divine action.

One thing stands clear and certain to reason, to wit, that the Deity did not intervene to suspend the

regular operation of the forces of Nature with a view to prevent the preservation of intermediate forms, while He suffered them to preserve those finished forms which are contained in the geological record.

The Second Book of this work, which deals with the Law of Population, is, properly understood, a continuation of my argument against Natural Selection or the Survival of the Fittest—the arena being transferred from the wild life of Nature to mankind joined together in the social bond.

The demonstration of the fact that population is so related to its food supply that the former cannot increase without an antecedent increase of the latter, is not only destructive of the pessimism of the Malthusian theory, but lends itself to the most optimistic hopes entertained of human progress.

I have also endeavoured to demonstrate that the competition which we witness in the various departments of human activity has not only no correspondence with Natural Selection or the Survival of the Fittest, but is Nature's ordinance for developing and making the most of the individual to the end of raising the status and elevating the standard of comfort of the whole community.

CONTENTS

BOOK I.

CHAP.	PAGE
I. THE STRUGGLE FOR EXISTENCE . . .	3
II. NATURAL SELECTION, OR THE EVOLUTIONAL VALUE OF THE INDIVIDUAL VARIATION . . .	60

BOOK II.

I. THE MALTHUSIAN THEORY . . .	115
II. THE LAW OF POPULATION . . .	146
III. THE LAW OF POPULATION ILLUSTRATED . .	169
IV. RETROSPECT AND FORECAST . . .	199
V. THE STRUGGLE FOR EXISTENCE . . .	226

BOOK I.

CHAPTER I.

THE STRUGGLE FOR EXISTENCE.

THE evolutional theory of Darwin rests upon the doctrine of the struggle for existence as he has formulated it. My purpose in this chapter is to demonstrate that such a struggle for existence, as is required to render his principle of Natural Selection effective for the work which he imposes upon it, is not found in Nature, and is repudiated by all the phenomena of the organic world. How severe and intense, how relentless and unintermitting must be that great and complex battle of life, as Darwin may well call his struggle for existence, in regard to which he feels himself justified in using such language as follows:—"Can we doubt (remembering that many more individuals are born than can possibly survive) *that individuals having any advantage, however slight, over others would have the best chance of surviving and of procreating their kind?* On the other hand, we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favourable individual differences and variations, and the destruction of those which are injurious, I have called Natural Selection, or the Survival of the

Fittest." What a picture is here given of life and of the conditions under which all living creatures subsist ! The over-production of living beings, that from their numbers in a congested world cannot possibly survive, are doomed in the terrible struggle for existence, in the fierce competition for food and life, to perish before they can procreate their kind, because they differ slightly from those who are fortunate enough to survive in the matter of their individual differences or variations.

It becomes understandable how the author of a concept of organic life so pessimistic felt himself constrained by the exigences of his hypothetical creed to wage unrelenting war against the notion of a benevolent Creator and of a designing Intelligence, and against any principle of beneficent purpose in any action of Nature, or in any of her developmental results.

Defining his struggle for existence, Darwin says : "Hence as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. It is the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms ; for in this case there can be no artificial increase of food, and no prudential restraint from Marriage."

I trust to demonstrate that this appalling picture of the conditions under which all organic life is lived is

not only overcharged with gloom, but is wholly untrue, not merely without support and corroboration from the actual phenomena of Nature, but is contradicted at all points by these phenomena; and that universal misery and an unremitting struggle for life are neither the essential, nor the prevailing, conditions of organic existence.

"The causes," Darwin writes, "which check the natural tendency of each species to increase are most obscure. Look at the most vigorous species: by as much as it swarms in numbers, by so much will it tend to increase still further. We know not exactly what the checks are even in a single instance."

In this chapter I shall deal only with the most vigorous species, or the class of vertebrate animals, the checks upon whose increase seemed to Darwin so mysterious and obscure; and in so doing, I shall show Nature, averting from them a struggle for existence such as he imagines to be their lot, by the manner in which she eliminates their excess of reproduction without calling to her aid the instrumentality of individual variations, either advantageous or injurious. In the chapter which follows this, I shall demonstrate that she cannot and does not use such variations for any evolutionary purpose, while in this I confine myself to making it clear that they play no part in deciding what individuals shall survive and what shall perish.

In this work I aim at dispelling the pessimistic view of Nature in her dealings with her sentient creatures, according to which, with the followers of

Darwin, she is represented as contemplating not their happiness, but merely their slow evolution through indefinite time, in the course of which their material well-being is ever being offered up and sacrificed upon the shrine of far remote developmental issues, while present misery must be the lot of everything that lives.

I desire, as far as lies in my power, to revive in the minds of young men, who are prone to accept as authoritative the current beliefs that prevail in scientific coteries, a reverence for the Divine in Nature, and a belief in the moral and spiritual forces of the Universe; to counteract, in short, that gross and degrading materialism which Darwin has gone far to make the recognised stamp of present-day scientific thought. I am not turned aside from my task by being constrained to acknowledge that there is a general consensus of opinion that the doctrine of Darwin is founded on the solid rock, that it has stood the test of time, and come triumphantly out of the fiercest fires of controversy; that it has won the enthusiastic assent of the scientist as of the man in the street; that the whole literature of two generations has pronounced it inviolable and irrefutable.

I am sufficiently acquainted with the scientific speculations of past ages, and with the various Nature-creeeds that have had their day, and obtained during their currency the universal assent of thinking men as well as of the multitude from the time of Anaxagoras up to the present hour, to be well assured that the concurrence of mankind, embracing all its intelligence,

all its wit and wisdom, is worth absolutely nothing where a purely speculative Nature-creed is concerned.

Between that practical science which since the beginning of the nineteenth century has transformed the earth, and quickened the heart-beat, and raised the hopes of humanity, and the speculative science of the same period, there is a great gulf fixed. Practical science has advanced from point to point, ever taking its start from the knowledge of phenomena already acquired, employing in its progressive stages legitimate inductive and deductive processes: and therefore and thereby, it gives promise of future developments that the imagination of the present day feels its inadequacy to forecast.

But what of the other? What of the speculative science of our own times? What of that boastful excursion into the realms of pure theory which is known as the creed of science, and which is a series of assumptions resting upon no material basis?

To deal with its two fundamental principles, which are the struggle for existence and the evolutionary value of the individual variation, to prove that the first is not the law of life and that the second is an impossible dream, is the task which I feel myself competent to discharge in this and the following chapters.

In the animal kingdom the individuals of each species reproduced in each generation far exceed the number that could, if they all survived, find main-

tenance. In the case of many species it is easy to account for the fact that they do not increase in undue numbers, as for instance in the case of the antelope and other herbivorous animals that are non-prolific, and as a rule produce but one offspring at a time. These creatures are born for two ends: the first being to enjoy their own existence and propagate their kind; the second being to afford sustenance to the carnivorous animals to whom they supply the necessary amount of food.

It is obvious that if such herbivorous animals are to fulfil those ends, the creatures that prey upon them must not be too numerous, otherwise the prey would in process of time be exterminated; while, on the other hand, if the carnivorous devourers were too few, the herbivora would increase to an undue extent. It is evident, therefore, that Nature must have a definite plan by which she maintains from generation to generation a due proportion between the numbers of the carnivora and the creatures which form their natural food. Of the manner in which Nature keeps true the balance of life between them, I shall speak at the close of this chapter.

If we ask what are the causes of destruction which eliminate the excess of Nature's reproduction, and contemplate her various higher or vertebrate types, it is obvious at a glance that the carnivora hold the key of the position; for they are Nature's agents for keeping within due bounds the numbers of all the herbivorous forms of life, even such forms as the

elephant and the hippopotamus, paying to them a sufficient tribute of their infant offspring to keep down their numbers and prevent their undue increase.

It is sufficiently well established that in their native haunts the carnivora do not, as a rule, make war upon each other, and that they prefer as food the more succulent flesh of their natural herbivorous prey; and as that is always in sufficient plenty, there prevails a certain comity and comradeship among the purely carnivorous tenants of the desert and the jungle. They are, moreover, careful of their skins, and prefer to get their food with as little danger to themselves as possible. The lion and leopard will not face, unless he is caught at great disadvantage, either an adult wild boar or a full-grown buffalo, but they will readily carry off a straggling pigling or an infant buffalo. When battles occur between individuals of the same species, it is almost invariably when one has struck down a quarry, and another coming up covets it. If the new-comer is manifestly the stronger, the weaker will abandon its kill to it; but if the original killer thinks that it can maintain its right to what it has killed, a fierce battle will ensue, ending, it may be, in the death of one of the combatants. But such battles are necessarily very infrequent.

That there is a prevailing comity and not a mutual antipathy between the strong denizens of Nature's haunts is, I think, conclusively proved by the experiments of Mr. Hagenbach, the well-known proprietor

of the Zoological Gardens at Hamburg. He conceived the idea, which for many years he has put in practice, of not confining the larger carnivora in separate cages, but of placing the several species together, lions, tigers, leopards, hyænas, bears, wolves, etc., in a large enclosed space, where they have room to move about freely. The animals have not been specially trained for such companionship, and many have been added to the collection immediately on being imported. Mr. Hagenbach's idea was to assimilate as far as possible the life of the various species to the conditions which obtain in their native habitats. The result of the comradeship thus established has been most happy. They live longer, look better, have glossier coats than the same animals kept in solitary confinement.

Let us now seriously consider the applicability of Darwin's doctrine of Natural Selection to the conditions and phenomena of feral life as regards the carnivora. Let us endeavour to look squarely in the face the facts of the case, and draw such conclusions as appear inevitable. I select for my purpose one of the larger felidæ.

Take a certain area of jungle enclosing 100 pairs of adult tigers. The average age to which a tiger attains is supposed to be about thirty years, in which period it breeds, we will say, seven times, producing on an average three offspring at a birth. The exact figures are immaterial, but let us take them as I have given them. In each generation, then, 2100 tigers are born, and of these only 200 individuals,

or 100 pairs, survive to take the place of their parents and to procreate their kind.

Let me here give the outlines of a conversation which took place between myself and a friend, who is still a young man and imagines himself to be a confirmed disciple of Darwin ; but I think he is only conventionally so, and because he entertains the belief that a doctrine accepted by all scientific thinkers must be true.

I asked him if he found it possible to believe that in the above mentioned area of the jungle there survive in each generation from the struggle for existence 200 tigers by virtue of possessing individual variations which give them some slight advantage over the others, who to the number of 1900 perish from possessing less advantageous variations.

My friend answered : " Surely. The fact that it is so seems to me to be an inevitable conclusion. You admit that the necessary elimination takes place in the great and terrible struggle for existence. Is it not obvious that the 200 who survive can only survive from having proved themselves the fittest to survive ? They are therefore naturally selected ; the weakest, as happens all throughout the realm of organic life, having gone to the wall and perished."

" Softly," I replied. " Let us leave out for the present what I admit or do not admit, and consider the actual conditions of the feral life of the tiger. Here we have 200 tigers which you tell me have been naturally selected to survive as being the fittest,

and 1900 which have perished because their variations were inferior. But how did they perish? They did not pass out of existence like a dream of the night, nor without material means being employed. Let us then ask how they perished. It is well known to those familiar with their haunts that tigers do not attack or kill one another, except on the rare occasions when two, equally matched, fight over a kill which one of them has made. Accordingly, if I strike off from the amount 50 tigers killed in internecine strife, you must admit that I have made you a generous gift; for I do not imagine that the number that perish in this manner amount to a tithe of what I have said. There still remain 1850 tigers to be eliminated in the course of a generation before any of them survive to procreate its kind. They do not destroy each other, and they have no other enemies that can destroy them; for when the young are old enough to come forth from their dens, their parents protect them too effectually to permit of any other carnivorous beast attacking them. How, then, does their elimination take place?"

To this my friend replied: "Their elimination must be constantly taking place, so that it is improbable there would be alive at any one time as many as 1000 young tigers in all. Darwin says the causes which check the natural tendency of each species to increase are most obscure. He resolves the question of surviving or perishing into a matter of the food supply: and I should imagine that in an area which has been fully

stocked with its animal tenants for generations, if the normal population of adult tigers be 200, there cannot be a sufficient supply of their natural food to maintain, say, 1000 additional tigers, including in that amount the 200 destined to survive and 800 doomed to perish. It would appear, then, that the progeny who survive are those who from possessing superior individual variations or differences are able to get food and live, and that the others fail to get the necessary amount of food."

"But, my good sir," I replied, "you must look at things in the concrete, lest by thrusting your mental eyes into a cloudbank of plausible abstract phrases, you act like the proverbial ostrich which, when hard pressed, thrusts its head into the sand and fancies it has escaped its pursuers by depriving itself of the power of seeing them. Make sure that your words, however admirable from a Darwinian point of view, are consonant with common sense and come within the sphere of the possible. You assume that in a limited area of jungle which can comfortably maintain in the aggregate only 400 adult and young tigers, there perish from inability to get the necessary food 1900 tigers in each generation. Yet the young tigers that appear as food-seekers are preserved, and have their maintenance assured to them so long as they are feeble and immature, by the protecting guardianship of their parents, and are only left to their own resources when they are able to hunt and kill for their own subsistence. I quite agree

with you that our limited tract of jungle would not contain a sufficiency of their natural food for 2300 or even for 1200 tigers, young and parents together, for any length of time, but it would certainly do so for a space until their necessary food was reduced to a vanishing point. You must surely perceive that if Nature let loose upon them such a multitude of devourers, their natural prey would be exterminated, and the end would be the extermination by famine of all the tigers themselves, parents and progeny."

"But," exclaimed my interlocutor, "I do not perceive what conclusion you are making for. You admit that the offspring of the hundred pairs of tigers amount in a generation to 2100 individuals, and that of these 1900 must be eliminated before they begin to procreate their kind. Yet you appear to be arguing at one time against the very possibility of their being eliminated, and at another against the very possibility of their existing at all in such numbers."

"Your inference," I answered, "is perhaps not unreasonable. If the 1900 doomed tigers enter into the competition of life, then when we look at the conditions and phenomena of their feral existence we are constrained to admit that very few of them are destroyed by individuals of their own species or by individuals of other species. Sufficient is known and testified to by the numerous hunters of the larger felidæ and other big game, to convince us that these creatures undergo no measurable thinning of their numbers by internecine warfare. While, again, if we

assume that all the progeny of the hundred pairs become food-seekers along with their parents, the result would indeed be for them a famine-stricken existence, but not until they had made an end of all their natural prey. I do not think that it is possible to escape from such a conclusion. However, let us for the present ignore this conclusion, and adopt your assumption that by reason of their possessing inferior individual variations the 1900 doomed tigers are unable to find food and therefore die of starvation. In this case you will admit that I am very moderate when I say that three out of every four met with should be found in a starving condition. But as yet no hunter of big game has encountered a young tiger that was not in robust and lusty health. Mr. Kipling, indeed, in his romance of *Naulahka*, has described in his graphic way a tiger returning to his lair in the morning, after an unsuccessful night's hunting, coughing out his angry and hungry disgust at his non-success. But while I admit the right of the romancist to romance, I do not allow his doing so to affect my belief that no tiger ever had such an experience. No sportsman ever killed an emaciated tiger, unless it had become mangy and lean from old age."

Here my friend exclaimed: "You are bringing matters to an impasse. Tell me, do you believe that the normal population of 100 pairs of tigers produce in their generation 2100 offspring?"

"Yes," I replied, "there or thereabout."

"Do you believe," he asked again, "that in the great

competition for food, in the constant struggle for existence, none perish from internecine strife?"

"Not quite that," I said, "but very few, an inappreciable amount when their numbers are taken into account. The known phenomena of feral life warrant me in saying so much."

"Do you believe, then," asked my friend, "that starvation does not act as an eliminating factor in the haunts of the tiger?"

"Neither," I replied, "in the haunts of the tiger nor in the haunts of any carnivorous creature. Will you, on your part, answer me this question? If you think it to be really the case that a struggle for existence prevails such as Darwin affirms must necessarily take place in feral life, a struggle of each individual striving either with others of his own or of other kinds, and if, as the inevitable result of this struggle, nine out of every ten of carnivorous animals perish either by starvation, or by the claws and teeth of their own or of other species, do you not suppose that every haunt of wild animals would exhibit manifold traces and signs of such dire and continuous slaughter as was being enacted in them? Can you conceive it to be possible that the testimony of every observant frequenter of the forest, the jungle, and the desert would be that they come upon no cases of famished animals, and but very few of carnivora done to death by carnivora? Would not every mountain tract, every jungle, every desert home of feral life, abound in such visible evidences of the demoniac struggle for

existence as would make it impossible for an acute observer of the phenomena of Nature to say that the causes which check the natural increase of carnivorous animals are very obscure? These causes would be thrust upon his observation, so that, in almost every single instance, he would perceive the checks which prevent the carnivora from increasing unduly. I ask you also to consider another aspect of the situation. The young of Nature's wild tribes in their native habitats are never observed to be more numerous in proportion to the adults than are young children to the human adults in a community. You admit that in the case of the carnivora the number of offspring produced is ten times greater than the number of those that can survive, and that all perish before procreating, except so many as are required to take the place of their parents in the next generation. Ought not therefore the number of young tigers, in relation to adults, to be always several times more numerous than they ever are observed to be? In fact, the young never appear upon the stage of life to be more numerous than would suffice to take the place of the parents at their death. In a word, we behold only survivors—vigorous, healthy, and happy survivors. But where is the struggle for existence? Where are the dying and the dead? Above all, where are the carnivorous swarms that should be rending each other in pieces, or falling faint in the grip of famine?"

"If I follow your argument," said my friend, "this is

your position. You affirm that the production of your 200 tigers amounts in their generation to 2100 individuals, of which all but 200 are eliminated before they become producers of offspring. You deny that there is such an intercidal struggle for existence as Darwin has posited, which you say could not fail to be visibly in evidence in the case of all carnivorous species, and which you affirm is visible in the case of none of them. You affirm, too, that starvation is never normally—for I presume you mean normally—an agent in the elimination of the excess of reproduction."

"You have stated my position correctly," I returned, "to wit, that the elimination of such a vast number of food-seekers, as Darwin's theory of the struggle for existence requires to be eliminated, is absolutely contradicted by the phenomena of feral existence; and moreover that it is at manifest variance with the conditions that prevail in it, and with the obvious fact that the normal population of each species in the jungle, the forest, and the desert remains constantly at the same point, while the young carnivora at no time seem to be more numerous than the adults."

My friend here broke in: "When you interrupted me, I was going to remark that you have brought the argument to this pass, that but one conclusion is left, to wit, that the only carnivorous offspring that become food-seekers are those who survive to propagate their kind, and that the others, being many times the

numbers of such as become food-seekers, perish in immaturity in the dens and lairs which saw their birth. Do they die of infantile diseases, or are they devoured by their parents?"

My friend asked this question sneeringly, but I replied to him seriously.

"Assuredly they must perish in their immaturity by one or other of these agencies. Their elimination in infancy can alone explain the actual phenomena of Nature, and is the only explanation that is in accordance with the facts and phenomena of feral life. Adopt it, and the causes which check the natural tendency of each species to increase are no longer 'most obscure.' Darwin found them most obscure, because he began to look for them after they had fully acted. They had done their perfect work before his keen observation was directed upon the phenomena of Nature with a view to discover them."

"Then," said my interlocutor, "kindly deign to inform me how you imagine the excess of Nature's reproduction is, in the case of the carnivora, eliminated before the young that perish become food-seekers. It seems to me to be a very absurd thing to believe that Nature reproduces her offspring in such numbers only to kill them off before they have begun to enjoy life."

To this I replied: "Do you then believe that Nature's action would be wiser and less cruel if she sent her enormous reproduction into the struggle for existence to be starved to death from being unable to find food, or to be mangled to death by tooth and claw in their

youthful prime? It is indeed to prevent such a struggle for existence, and to preserve her offspring from such a fate, that she painlessly eliminates them in the earliest stage of existence. As for reproducing her offspring in numbers that appear unnecessarily large, she has a very practical and important end to serve, namely, in the case of any sudden destruction falling upon any of her species, to provide the means of its speedily recovering its numbers: while the waste of life is of no moment, and its seeming heartlessness is discounted by the fact of its entailing no misery or suffering. You do not exclaim against her waste of life when you see Nature producing from a plant thousands of seeds of which only one will come to maturity. The same principle prevails in the animal kingdom as in the vegetable, and its action is accompanied with as little pain in the one as in the other. Such a principle as the struggle for existence is one which Nature with all her divine heart abhors. I shall now endeavour to answer your question as to how the immature offspring are deleted.

“When I first turned my attention to the task of endeavouring to ascertain, if it were possible to do so, the manner in which Nature deletes her excess of reproduction, I was not long in perceiving the force of the considerations which we have passed under review, and in arriving at the inevitable conclusion that there must be some check imposed by Nature which acts before the young appear as food-seekers, and which in every haunt that is fully stocked with its feral inhabitants must

be capable of preserving one pair, and not more than one pair, to succeed their parents in a generation.

“I had thus two distinct problems before me, first to discover what is Nature’s method of eliminating her excess of reproduction, and second, what is her method of preserving alive the necessary and no more than the necessary number of young to take the place of their parents. For a time the solution of the first problem appeared to me a hopeless task; but a seemingly accidental circumstance put me on a track that eventually brought me to the required solution. For some years I had kept in my house two cats, a male and a female. From time to time in the course of four years the female showed signs of pregnancy, and then appeared lean and lank, as if she had been newly delivered; but no brood ever appeared to certify the fact. The male, however, happening to be killed, the female not long after became a happy mother of kittens. It was therefore obvious that the male had devoured her former litters. More in jest than earnest, I asked myself, Can this be the manner in which Nature’s excess of reproduction in respect of the carnivora is eliminated? However, my curiosity on the subject was excited, and I made further inquiries and observations. I found that in every case where a tomcat was tenant of the same house with a tabby, the litters of the latter were sure to be devoured by the former. I have also more than once observed, and have been informed by others who have noticed it, that when the female is pregnant, the

male cat some days before the parturition of the female follows her about persistently wherever she goes, while she appears to be in a state of great excitement, and often in an access of rage flies upon him and drives him off for the time being. I ask you to take note of this fact; for if the behaviour of the male cat be representative as regards the carnivora, it signifies that there must be some odour about a female advanced in pregnancy that provokes the male to keep her close company in expectancy of a feast to be shortly provided for him. It points in my mind to a provision of Nature to secure that the amount of elimination of the young shall be sufficient for her purposes."

My friend here interposed: "What you say may be quite true of the cat, which is a domestic animal; but have you any well grounded reason for believing that the cannibal habit of the male cat is representative of the carnivora generally? for everything lies in your ability to prove that such is the case."

"I shall endeavour to satisfy you," I answered. "But you must consider that the concealment of their lairs from the males on the part of the females, and what happens before the young appear as food-seekers, are among the secrets of feral life that are peculiarly withdrawn from observation; otherwise I should not have been compelled from a review of the various phenomena of feral life to deduce the fact that the elimination of the excess of the young of carnivora must take place before the survivors appear as food-seekers. Yet I feel sure that if the observation of

naturalists and Nature-lovers had been directed to discover what does take place when carnivorous females are with young and when they bring forth, a sufficiently large body of facts would have been gathered to make it evident that the implanted propension of the males to devour their newly born offspring is Nature's check upon the undue increase of the species. You must acknowledge that this method of restraining the various carnivorous species from increasing their numbers unduly, if it be indeed Nature's method, is congruous to and consonant with the savage habits of creatures that obtain their daily food by the slaughter of other animals: while if, as kindly Nature does, we debar sickly sentiment and look to practical beneficence, we will readily acknowledge that this method is at once the shortest and most direct, the most congruous to the nature of the species concerned, and that which is effected with the smallest amount of suffering or misery: for the process of deletion so far as the young are concerned is an absolutely painless one.

"Nature, in short, separates for a brief period the interests of the males from those of the females, so that while the latter are concerned to bring forth their young in safety and rear them, the former are impelled by their instinct to track the females to their lairs and devour their young. In the conflict of their divergent interests the great majority of litters perish, while a sufficient number are preserved to ensure the continuance of the species. I

have read articles dealing with the rat, with the weasel, and with other wild species which, unfortunately, I cannot at this moment recall, in which the writers from their own observation stated that the males devour the newly born broods of the females if they discover them. Some years ago, I read in the *English Magazine* an article in which the writer spoke of a terrible battle that had taken place in a district of India, called Seoni, between two great tigers. One of them had brought down an antelope and was proceeding to devour it, when the other coming up demanded the cession of the quarry to him. A tremendous conflict took place, at the close of which the tiger that proved victorious, having all his savage nature aroused by the struggle and by the wounds he had received, manifested his vindictiveness by eating portions of his dead enemy. The victor himself was afterwards found, not far off from the scene of the battle, dead from his wounds. The writer having described what had occurred, then went on to state that he had never before heard of one adult tiger eating another, though it was well known in India that a male tiger would devour its infant brood in the absence of the mother. Some time ago I was on a visit to a relative in the North of Scotland who was a keen sportsman. One day at breakfast he informed me that a mischance had that morning occurred. His gamekeeper going to a cage that contained a pair of ferrets found that he had been too late in removing the male, for when he arrived the female was in pro-

cess of delivery, and the male was by her side gulping down the infants as soon as they appeared. After the removal of the male one more young ferret saw the light, the sole survivor of the brood, the others having perished unconscious of a pang.

"But other males besides carnivorous have the same instinct. Herbivorous species, as you are aware, are divisible into two classes, those which are prolific, the female having several young at a birth, and those which are non-prolific, the females of which generally have one, though occasionally two, at a birth. In the former I have found that the instinct which prompts the male to devour the young is universal, while in the case of the latter the offspring are unharmed by the male. All boys who keep rabbits and guinea-pigs are aware how necessary it is to remove the males before the parturition of the females, as, if this was not done, the males would repeat the story of the ferret. In like manner the boar, if it were present when the sow farrowed, would at once devour the litter."

My friend, who had listened with apparent interest when I was speaking, here remarked: "Do you not think, sir, you are making too large a generalisation from a very insufficient array of facts? I do not venture to throw doubt or discredit upon anything you have said. It may indeed happen that it is the occasional, if not the invariable habit of the males of a few species to devour their offspring, if they find them when the females are absent, or even, as in the case of the male ferret that you mentioned, when they are present.

But there are very many carnivorous species in Nature's haunts, and to generalise from these few species, and include in your generalisation every carnivorous family, appears to me to be a very unscientific method of proceeding. Again, in regard to prolific herbivorous species, you have mentioned only three, the rabbit, the guinea-pig, and the sow, all domestic species, whose males you say devour their young. Yet you aver without any reservation that in the case of all prolific herbivorous species—and they are very numerous—the instinct that prompts the male to devour the young is universal. I do not think, sir, you have gone very far to prove your case or to justify your large generalising."

"Far enough," I said in reply, "to justify me in making a provisional hypothesis, and in asking naturalists to give it some consideration; for if they can certify from actual observation that there are some carnivorous species, the males of which remain in the lairs with the females at the time of their delivery without devouring the young, my hypothesis falls to the ground; while, on the other hand, if they find no instances of this, they may succeed, and I think they would surely succeed, in finding other carnivorous and prolific herbivorous species, beyond those I have mentioned, of which the male, when opportunity offers, invariably devours his offspring. You will at least admit in favour of my generalisation that it renders the existing facts and phenomena of feral life intelligible, and reconciles them with reason and with

observation. The invisible absorption or silent melting away of the excessive reproduction is in this way, and can only in this way, be explained. But I do not by any means rest my belief in what I consider to be Nature's method of eliminating her excess of the reproduction of carnivorous animals upon the few facts which I have brought forward, however suggestive they may be. I am able to advance irrefragable and irrefutable corroborative evidence as to the instinct of the males, that is within the reach of everyone, and which embraces every known carnivorous species, and every prolific herbivorous species without exception—in short, every prolific species, carnivorous, semi-carnivorous, and herbivorous. But before stating what that evidence is, I must ask you to give me a patient hearing while I expatiate for a little upon Nature's methods of deleting the excess of reproduction in the animal kingdom.

"I freely confess that my knowledge comes far short of being able to account for the deletion of the excess of reproduction in all the various forms of animal life, as, for instance, in the case of the insect tribes, to which I have paid but little attention. I am convinced, however, that everywhere the analogy of Nature holds good, and that intelligent and patient observation will discover what is Nature's check in every case, and that in no case will it be found necessary to have recourse to the imaginary action of individual variations. Darwin is at a loss to account for the huge pachyderms not increasing

beyond measure even though they are non-prolific and slow breeders. Let me read to you this passage. 'The elephant is reckoned the slowest breeder of all known animals, and I have taken some pains to estimate its probable minimum rate of increase. It will be safest to assume that it begins breeding when thirty years old, and goes on breeding till ninety years old, bringing forth six young in the interval, and surviving till one hundred years old; if this be so, after a period of from 740 to 750 years, there would be nearly nineteen million elephants alive descended from the first pair.' Again he says: 'On the other hand, in some cases, as with the elephant, none are destroyed by beasts of prey.' How then did Darwin imagine that the increase of the elephant was checked? Did he suppose that Natural Selection was all potent to arrest its increase without material means being employed? But in his affirmation that no elephants are destroyed by beasts of prey Darwin was greatly mistaken, for there is no fact better known to Anglo-Indians than that elephant babies are not unfrequently swooped off by the sudden rush of a great cat, even from the presence of the protecting parent. The enormous strength of the tiger and of the lion enables them, when once in possession of their victim, to baffle all parental pursuit. I need not tell you that there is no haunt of the big pachyderms—elephant, rhinoceros, or hippopotamus—where some of the greater cats do not abound, and in some cases alligators, who exact a sufficient tribute

from the young to check the increase of the species, and maintain the balance of life which Nature desiderates.

“Let us again consider the case of carnivorous birds, where the parents do not devour their own offspring. Let us take the eagle as representative of the raptorial group. These birds in Europe build their eyries upon mountain ranges, and each pair exercises a jealous dominion over a certain area in which it will allow no other pair to settle—it may be a valley or part of a valley. A well-known haunt of the eagle is in the mountains of Norway, where they breed and maintain their numbers from generation to generation without ever increasing. Though not prolific birds, they might easily treble their numbers in a generation, and if they had an unlimited amount of unoccupied territory to settle in, they would do so. But their territory has all been occupied for ages. What then prevents their multiplication? It is well known that the male and female birds are both excellent parents, solicitous for the well-being and proper upbringing of their young, until they are able to fly abroad on steady wing and forage for themselves. The old birds then drive them forth from the eyrie, with sentence of death passed upon them should they attempt to return. The birds thus driven away from the parental nest will not be permitted to effect a settlement in any haunt where the pair in possession are able to kill them. On the other hand, they will take possession of haunts that are deserted from the old possessors being dead, and of haunts whose occu-

piers, enfeebled by age or other causes, are unable to resist their settlement, and are therefore killed. Those who cannot find a settlement in this way all perish. In this manner eagles in their mountain haunts are, always apart from the exterminating intervention of man, preserved from age to age, neither diminished nor increased in numbers."

"But," exclaimed my friend, "don't you think this method of elimination resembles the struggle for existence as defined by Darwin, which you say Nature repudiates?"

"No," I said; "the young eagles are not cast into a wretched lifelong struggle, but sent upon a quest which, if not successful, has a quick ending. Their success in finding deserted nests, or birds enfeebled and decrepit from age, is not due to their possessing certain individual traits or variations, but to what we may call fortuitous happening. Moreover, if they perish, they perish in a manner that carnivorous birds cannot reasonably complain of; for Nature, which is never wantonly cruel, is never sentimentally squeamish. I have seen it put forward that the combats that take place in the rutting season between the males of gregarious species, sometimes ending in the death of the defeated rival, are means used by Nature for thinning the ranks of the excessive reproduction. But as superfluous males only are killed, and the fertilising of the females is in no way interfered with, it is evident that the instinct which prompts the males

to contend *à outrance* in the lists is not a means ordained for the numerical restriction of the species, but contemplates rather the ordering of the gregarious principle."

"I have been thinking," said my interlocutor, "of a fact which you appear to have forgotten, and which seems to me to be quite at variance with your hypothesis, indeed, altogether to destroy it. It is well established by your friends the hunters of the big game, that when the cubs of carnivorous animals are first seen abroad, they are generally accompanied by both parents, the male as well as the female acting as their protector as soon as they are able to leave their dens. Is it, I ask, imaginable that the same animal which you describe as greedy to devour its offspring at birth, should at this early stage of life play the rôle of a loving protector?"

"It is nevertheless the case," I answered. "I must confess that at first it gave me some thought to account for it. A gamekeeper whom I once asked if the fox was aware of the particular den where the vixen brought forth her young, said he did not think it was so at the beginning, but that he had frequently seen the male carrying game to the female and her cubs when the latter were quite young.

"The first real light I received upon the matter was from an old magazine article which contained some excerpts from what was then a recently published autobiography of Faimali, in his day a celebrated lion tamer. Faimali states that

the lioness must be suffered to bring forth her young in total darkness; for if, during a space of from nine to twelve days after their birth, any light finds an entrance into the cage, the fierce mother is sure to devour her cubs. Boys who make pets of rabbits know how apt the mother is to destroy her brood if she is disturbed in the early days of her nursing, though she is indifferent to disturbance when more than a fortnight has elapsed. When I read Faimali's statement, it at once occurred to me that the limitation of the period during which the intrusion of light into the darkness of her cage prompts the lioness to devour her progeny must coincide with the time when the cubs, if discovered by the male, are in danger of being devoured by him. I seemed to see therein the beneficence and wise ordering of Mother Nature exhibited. A great work of elimination requires to be accomplished; therefore is the appetite of the male parent excited, as it would appear, by some odour proceeding from the callow offspring, impelling him to devour them. But as Nature's purpose is partial elimination, and not extermination, and as the number of survivors must suffice to propagate the species, so as to preserve its numbers undiminished from generation to generation, she causes the exciting odour to pass away when it has served its purpose. Then haply the mother goes forth to seek her mate, and instal him as protector and provider of the family. Faimali's account of the behaviour of the lioness in the circumstances

which he has described recalls to my mind an incident which happened in my father's house when I was a mere child. In the house was a cat which was a great favourite with us children on account of its gentleness. It was nursing a litter of kittens in an outhouse, when, to the horror of the family, it appeared one day, its jaws dripping with blood—the blood of its own offspring. A large male cat had found its way into the place where the kittens were with their mother, and she, seeing that she could not avert their doom, had shared in his feast with the intruder.

“The statement of Faimali as to the effect of light suddenly breaking in upon the darkness in which the lioness couches with her brood, seems to me to be full of significance and suggestion as to what takes place in the haunts of the carnivora. We can almost imagine we perceive the lioness or the tigress stealing away from the side of her slumbering mate, or making off when he is hunting at some distance from her. She will most frequently be unsuccessful, as he will be on the alert and suspicious, being aware of the succulent repast she carries with her. If, however, without being tracked by the male, she succeeds in reaching a cave or den, most likely discovered by her beforehand, and noted as a suitable place of concealment, she makes her lair in the deep darkness and brings forth her whelps. She lives in constant dread of her wandering lord, afraid of his intrusion. What sense of security she has is imparted by the

darkness in which she lies. This explains how the lioness in confinement devours her cubs when the darkness of her den is broken in upon by the intrusion of light. Her sense of security and safety is at once dispelled by the disturbing light, and the fear of her mate, or other desert prowler, being near impels her to anticipate his feast. It is extremely probable, as I have already said, that when the danger period for her cubs has passed she goes forth to find the mate she has for the time being deserted, and when she has found him makes him the family provider."

"Well," remarked my friend here, "this may be so, or it may not be so. You spoke some time ago of being able to produce evidence, irrefragable I think you said it was, and irrefutable, as to the cannibal habit of carnivorous males. Is it not full time that you should produce it?"

"I shall do so with pleasure," I answered. "When my hypothesis began to assume a plausible appearance to my mind, I proceeded to submit it to a test which should conclusively prove its truth or its falsehood. I consulted Mr. Bartlett, Superintendent of the Zoological Gardens, who was then living, and he informed me that every carnivorous species, and every prolific herbivorous species required, before the parturition of the female, to have the male removed; for if this were not done, the brood would be straightway devoured by it."

"But," asked my interlocutor, "is it not possible to believe that the behaviour of the males is due to the

effect of confinement rendering them savage beyond their wont in the free state ? ”

“ I do not think so,” I said. “ Just consider what was my argument, before I spoke of Nature’s method of eliminating the excess of reproduction. Did I not clearly demonstrate that no such struggle for existence prevails in the free life of Nature as would account for the destruction of nine out of every ten of carnivorous food-seekers, and that it is utterly impossible to believe with Darwin that they perish from mutual slaughter or from starvation ? Is there any fact in Nature more evident than that neither of these forms of destruction affect to any appreciable degree the more formidable carnivora ? And there exists no reason for believing that they prevail to any greater extent among other carnivorous types.

“ Again, what would happen if the young of the larger carnivora, protected, as we know them to be, by their parents, until they are able to forage for themselves, should appear as devourers of their natural prey ? Neither mutual slaughter, nor destruction from other species capable of destroying them, nor starvation, thins their ranks. Their production being in such numbers, their increase would be prodigious. What would then become of those animals that form their natural prey ? But their natural prey is never found to undergo diminution so long as they have no other enemies than their carnivorous destroyers. Therefore their carnivorous

•

destroyers do not increase in their haunts. But when we consider that they do not struggle for existence as individuals with other individuals of their own or of other species, how, we may well ask, could they thus be kept within due bounds if they multiplied so fast as they would necessarily multiply if all the production of young appeared as food-seekers in their native habitats? We are therefore constrained to the conclusion that the enormous reproduction of the carnivora do not *all* appear as food-seekers, but that by far the greater number of them are eliminated before they enter into competition with others for food.

“When I had brought the argument to this point, I instanced one form of deletion of the excess of reproduction that is known to prevail, both in the feral state and in the state of domestication, among certain species; and averred that these form the only species of prolific vertebrate mammals of whose behaviour, when the female gives birth to young, we know anything. Accordingly, having no known facts opposed to those of which, by my own observation, and on the authority of others, I had become cognisant, I formed the provisional hypothesis that the instinct of the male which impels him to devour the newly born offspring of the female is Nature’s method of eliminating the excess of her prolific feral tribes. I argued, moreover, that this hypothesis, supposing it to be true, fully accounts for the phenomena of feral life, as, for instance, the fact that the young carnivora found in their native haunts never appear to be more

numerous in proportion to the adults than are required to continue the species in undiminished numbers; while, without our being necessitated to have recourse to believe in a mysterious supernatural invisible absorption, or silent snowlike melting away of hosts of young carnivora, it explains why it was that Darwin found the causes which check the increase of those vigorous kinds that he supposes to swarm in numbers, most obscure. I showed also that the elimination, speedy and painless, in the earliest stage of existence, of so great a number of individuals, born of prolific species, is an argument, not of Nature's cruelty, but of her kindly care and regard for her offspring, and is the mode by which she averts from them the horrible fate which is contemplated for them in Darwin's struggle for existence. I showed, too, that her method of elimination is perfectly congruous to the nature and habits of the creatures who carry out the ordinance of Nature. Moreover, I have showed her regulating the eliminating process by establishing a temporary divergence of interests between the male and female parents.

"Having found, then, that the elimination of the reproduced excess of carnivorous animals before they become food-seekers is a necessary logical conclusion from the facts and phenomena, and from all the conditions of feral life, and having shown that such elimination takes place in the case of all prolific animals, the habit of whose males, when the females have young, is known, I find the Zoological Gardens

giving the corroborative testimony that, within their precincts, all carnivorous males and all herbivorous males of prolific species would devour their young as soon as they are born, if they got the opportunity.

“If the behaviour of the males in the Zoological Gardens be accepted as revealing what happens in their free state, then we have explained to us all that was hitherto mysterious and inexplicable, even to Darwin, in regard to the non-increase of carnivorous animals in despite of their great reproductiveness.

“We must take, too, into account the fact that it is not in a few cases, or occasionally, that the propensity of the male to devour the brood of the female in prolific species is seen showing itself in the Gardens, but universally over the whole range of carnivorous species, and over the whole range of prolific herbivorous species. I ask, Does not the universality of the instinct displayed within the precincts of the Zoological Gardens, embracing every prolific species of the vegetivora, but taking in no other, proclaim that it is an ordinance of Nature ruling as surely in their native haunts as in captivity?

“In the circumstances I must set down your question as to the possibility of the propension of the males to devour their young, in the Gardens, being the effect of confinement, as having been made without due reflection or consideration. Let me here point out to you a rather curious result of my inquiries at the Gardens. Darwin gives as a singular effect of confinement, the fact that, while the carni-

vora even from the tropics breed freely in captivity, the plantigrade or bear family breed very seldom.

"Now, upon reflecting on this statement it seemed to me that the comparative sterility of the bear family would indeed be a very singular effect of confinement, inasmuch as the bear has the most extensive range of all families. I therefore reasoned that if the bear in confinement is comparatively sterile, this must be due to its organisation, and that consequently the female seldom brought forth young in captivity, because she seldom brought forth young in her native haunts. I further reasoned that if this was the case, Nature had provided this as the check upon the bears increasing unduly, and that consequently the male would be devoid of the propension to devour the young. I accordingly asked Mr. Seth, who had charge among other animals of the bears in the Zoological Gardens, if the males of all semi-carnivorous animals would devour the young whelps if they got the chance. 'They would certainly do so,' he said. Then I said to him, 'You won't then leave the male bear with the female when she is going to have young?' 'Oh! the bears,' he said; 'I forgot about them for the moment. They very seldom breed in the Gardens, which Darwin says is a very curious effect of confinement on the plantigrade or bear family. No, sir, the male bear never offers to touch the whelps when they are born, nor afterwards; so he is allowed to remain with the female all the time.' 'Have all the different kinds of bears,' I asked, 'produced

young in the Zoo? ‘Oh yes,’ he replied, ‘but they breed very seldom.’

“Now observe how your supposition, that the instinct of the male of which we have been speaking is the effect of confinement, is affected by the fact of its being absent in the plantigrade or bear family. Is there a more savage carnivorous animal than the polar bear or than the grizzly bear? Yet while the lion in confinement is separated from the female to prevent him from devouring her cubs, the males of the fiercest kinds of the bear family are permitted to remain in the same cage with the females both when they are pregnant and when they bring forth. Is it not very evident that the reason of the difference between the behaviour of the lion and the male bear is that the former belongs to a prolific family and the latter to a non-prolific? Now, what do you think of the story which the Zoological Gardens have to tell us corroborative of the instinct of the males of all prolific species?”

“It is very extraordinary,” replied my friend. “I have never before heard that it is the custom at the Zoo to remove the males when the females are pregnant, or that the litters are in danger of being devoured. No such statement, as far as I know, has ever been published.”

“Your amazement,” I said, “is shared by myself; for even assuming that it could be regarded as a singular effect of confinement, it cannot, I think, be considered as other than a very noteworthy and extraordinary circumstance that the males of so great a number of

divergent species and families, presumably affectionate parents in the free state, should, as the mere effect of confinement, develop all at once a craving to devour their offspring.

"But is it possible to believe that the mere fact of being confined should all at once radically change the ingrained habits and nature of so many and various wild species? Besides, how should the males only be thus affected by confinement, while the females retain the same love of their offspring in confinement as in the free state?"

"In every way, you must grant that the instinct of the males of the groups I have mentioned has great significance to students of natural history, and still greater significance to the followers of Darwin. Yet I have never met a naturalist or a believer in Natural Selection, who was cognisant of the facts imparted to me by Mr. Bartlett. One might almost imagine, if it were not absurd to do so, that there existed a conspiracy of silence to prevent the most significant set of phenomena in the Zoological Gardens from leaking out."

"But," said my interlocutor, "you don't believe that there is, or ever was, such a conspiracy?"

"The idea is absurd," I replied; "but it is curious that Mr. Bartlett, from whom I received my information, never in his various publications made mention of it, even when it seemed difficult to avoid doing so. Let me read you a passage from his *Wild Animals in Captivity*:—'The male wolf, when confined with the female who has young, appears to take an active

share in rearing the young ones. It has been found that directly the young wolves begin to run about, the male, soon after feeding, casts up from his stomach a considerable portion of his half-digested meal which the cubs eagerly devour.' Would anyone, I ask you, interpret the phrase, 'directly the young wolves begin to run about,' to mean,—directly the male wolf, after having been excluded from the cage until the danger to his cubs has passed, is restored to the company of the female? Yet this is what it means. But how much more this tells us than the unilluminating phrase, 'when the young wolves begin to run about'! For it tells us of the marvellous change which has taken place, all at once as it were, in the male, transformed from a creature ravening to devour its young, to the kind parent feeding them from the contents of his own stomach.

"Mr. Bartlett continues:—'It is remarkable to find that upon the male being removed, the female immediately commences to do the same thing, namely, to cast up a large portion of her half-digested food for the cubs.' Now I might make here a plausible charge of dishonest statement against Mr. Bartlett. But I should act very wrongly in doing so. Mr. Bartlett was not a practised literary expert, and so inadvertently strayed in his relation. The only time when the male is removed from the female is before the pregnancy of the latter. He would certainly not be removed when he is assisting her in feeding the cubs. Therefore it is the male who continues to

feed the young in the manner practised by the female before he was admitted to her company.

"I may now tell you that the true reason for my quoting Mr. Bartlett was not to bring against him a ridiculous charge of concealing the truth, but to bring him forward as evidence to the correctness of my inference that when the danger-season to the cubs is past, the male assumes his part in the family as its protector and provider. I want you now, my friend, to answer me this question in a straightforward manner. If we take it for granted, merely for the argument's sake, that Nature in the feral existence of all her prolific species repeats the story of the instinct of the males given by the Zoological Gardens, what becomes of Darwin's doctrine of the Survival of the Fittest, or of the Struggle for Existence, as he has defined it?"

"If Nature does so," replied my friend frankly, "and if her mode of deleting the excess of reproduction of all prolific species be accomplished by the males before the young appear as food-seekers, then of course the Darwinian theory is no longer tenable; for there can be no struggle for existence such as Darwin has defined, nor any natural selection or survival of the fittest, brought about by the action of individual variations, while it is evident that the survival that takes place is not the survival of a selected number of individuals, but the survival of the average."

"Yes," I said. "Darwin knew nothing of the manner in which the excess of her prolific species was

eliminated by Nature. He saw their great productiveness, and consequently conceived that they swarmed in numbers. He therefore set himself to devise a theoretical explanation of their elimination. He accordingly, after perusing Malthus' Essay on Population, conceived himself at liberty to posit a universal reign of misery over all organic life, and to formulate his struggle for existence, in which the vast majority of the food-seekers belonging to Nature's prolific species perish by famine or by the tooth and claw of individuals of their own or of other species, while the few survivors survive from their possessing advantageous individual variations or differences slightly better than were possessed by those who were starved to death, or were mangled and torn, by their competitors in the great and complex battle of life.

"Upon his struggle for existence he has made his whole evolutionary system rest. This single narrow point is its fundamental principle, upon which it reposes as an inverted cone upon its apex. If, then, it be found that Nature in her beneficent and guardian care for the well-being of her sentient offspring eliminates by a remedial ordinance her excess of births before the young become food-seekers, to what end exist variations that give survival in the struggle for existence? Yes, I ask, to what end do these variations exist if they are never called into action? The cone can no longer rest upon its apex; the evolutionary system, deprived of its fundamental principle, falls with a crash."

I here take leave of the friend who has helped me so far in the steering and guiding of my argument. As he was summoned from the realm of shadows to serve my purpose, I now dismiss him to return to it.

Until the middle of the last century all thinking men contemplated with admiration the beneficence and benevolence that were displayed in the arrangement of Nature for the well-being and happiness of her sentient progeny. They did not shut their eyes to the fact that some species must needs live by the slaughter of other species, but they found consolation in the "belief that the war of Nature is not incessant, that no fear is felt, that death is generally prompt, and the vigorous, the healthy, and the happy survive and multiply."

Our ancestors believed in a benevolent Power ordering the arrangements of Nature, and providing for the welfare and happiness of her various tribes. But all this has been changed. Darwin came, saw, and conquered. He deposed the benevolent Deity from His throne, and put the Devil in the place of honour : and now Arimanes reigns. The doctrine of Malthus, which deals with the maintenance of the human race, was bad and immoral as well as radically false, as, indeed, being immoral, it was bound to be. Darwin took up this immoral and utterly false doctrine, and extended its operation to all life, to the whole vegetable and animal kingdoms, and averred that it is applied to those kingdoms with manifold force.

Now, I quite admit that it is the business of science to examine into the truth, and not into the morality of any propounded cosmical theory ; and though I feel assured that Nature is not governed by a principle of diabolism, and that no alleged principle of action on her part that can with justice be stigmatised as immoral can be true, yet I rest my argument not upon an endeavour to prove that the doctrine of the struggle for existence is immoral, but upon the proof that it rests upon demonstrably false assumptions, and that all the phenomena of the world of Nature unite in crying out that the doctrine itself is false.

I regret to believe, but too many evidential circumstances concur to confirm my belief, that by a section of Darwinian scientists the doctrine of Natural Selection, or the Survival of the Fittest, is cherished with a boundless fervour, because of its immorality, because it renders belief in a benevolent Deity impossible, because it pours contempt upon all religious aspirations. The world of Nature presents to-day the same phenomena that spoke to our forefathers of the Divine goodness, for they believed in a governing and controlling Power above and beyond Nature. But the men of this post-Darwinian generation look upon the same world, and see a reign of ravine that shrieks against the comfortable creed of their forefathers.

The naturalist now goes forth to the woods to observe "*the tragedy*" of feral life, as exemplified in the destruction of their hapless victims by the car-

nivora. He observes what passes before his eye as one afflicted with a diseased optic nerve, and consequently misreads the fair page of Nature which seems to him only a lurid record of tragedies.

Prepossessed with his master's theory of demonism, with its presentation of Nature's cruelty, truculence, and savagery, he forgets, as well he may, his master's words of consolation, that in the war of Nature death is generally prompt and no fear is felt. He therefore does not see what his forefathers saw, and saw truly, that until the moment of their prompt death even the predestined victims of the carnivora are vigorous, healthy, and happy survivors, and that in the universal joy of life throughout the whole realm of Nature there is practically little alloy of misery, notwithstanding what Darwin calls the war of Nature. The pessimism of the present-day explorers of feral life is repellent to healthy natures.

But I ask my readers, Have they ever endeavoured to realise what sort of a spectacle the feral world would present if, as the result of a competition for food, there were, as Darwin says there must necessarily be, "in every case, a struggle for existence, either one individual with another of the same species, or with individuals of distinct species,"—if, in short, the weak of each species must go to the wall and perish, unable to compete with the strong, which have more advantageous variations, and which therefore can procure food more readily? The weak, then, according to Darwin's interpretation of the action of the

cosmic forces, are destined to starve or be slaughtered by their stronger competitors in internecine strife. There could be no intermission in the incessant war of Nature here declared. The fear of starvation—an inheritance handed down from remotest generations—would possess every creature, and the resulting war and slaughter would be most ruthless among the individuals of the same species. The luridest imaginings of the most nightmare-ridden seeker for Nature's cruelty would come infinitely short of the feral pandemonium where the war of extermination, for such it must needs be, should be raging at every moment with fellest intensity. But the author of Natural Selection, who sees that the necessary elimination of the excess of reproduction takes place, though he cannot tell in what manner it takes place, closes his survey of warring Nature with the words:—"All that we can do is to keep steadily in mind, that each organic being is striving to increase in a geometrical ratio; that each at some period of its life, during some season of the year, during each generation, or at intervals, has to struggle for life and to suffer great destruction. When we reflect on this struggle, we may console ourselves with the full belief that the war of Nature is not incessant, that no fear is felt, that death is generally prompt, and that the vigorous, the healthy, and the happy survive and multiply."

Let us suppose a traveller, after having described a country in which he had sojourned, as drenched with continual rains, flogged by frequently recurring

hurricanes, and wrapped in constant gloom, quietly observing at the close of his narrative, that nevertheless the inhabitants enjoyed perpetual sunshine, that their streets were never wetted, and their crops were never shaken. He would simply be following a characteristic Darwinian method of shunting critical investigation by an authoritative statement. Surely that writer has attained to a literary man's perfect apotheosis who can utter the most glaring inconsistencies, with no fear of having his words challenged, and in perfect security against being called upon to furnish explanations.

I shall now endeavour to deal with the second problem which confronted me when I set myself to consider what the checks are which prevent the undue increase of the feral population of the globe.

What principle can be supposed to govern the amount of elimination so that it shall cease before the living broods become too few to continue the species in due numbers? And, again, what principle does there exist of recuperation when the numbers of any species become reduced by the action of some abnormal cause of destruction, such as long protracted seasons of drought, wide-spreading forest fires, and other catastrophes that do not belong to their ordinary experience? We shall first inquire how Nature adjusts the elimination of her excess of births, so as to maintain the equipoise of life as between her carnivorous species and those species that are their natural prey.

The notion cannot, for a moment, be entertained that Nature leaves to chance the numbers of the young that fall to be destroyed, and that fall to be saved. Into Nature's arrangements for the effecting of any of her purposes, the element of chance can never enter. She works by laws in whose operation the means are finely adjusted to the ends contemplated. In human affairs, events which seem to fall entirely within the domain of chance, and to be subject to no rule whatever, are found, when they are gathered together and shown in their totalities, to be subject to a governing principle which determines their incidence, and brings about a fixed and invariable general result.

To give a trite example. When we look to the individual action, nothing seems more the effect of chance or fortune's caprice than whether or not a letter deposited in the post-office will be found to be unaddressed; yet over the United Kingdom the number of such letters is found not to vary proportionally to population from year to year.

Thus we see that even the caprices and vagaries of the mind, that seem as if they could not, by any possibility, have a governing principle of incidence, are proved to fall within the domain of unvarying law.

Doubtless if there existed an intelligence comprehensive enough to know all the springs of action of the mind, and all the ways in which it is affected by its immediate environment, and also the actual position and environment of each mind, it would be able to foretell with mathematical certainty the amount and

incidence of every aberration from the usual course of human action. But this is to presuppose that omniscience which wise men regard as the attribute of the Divine mind alone. But it also presupposes the existence and action of laws that never deviate or change: for in aberration from the normal and usual phenomena, the action of the law is not in any degree altered, but the conditions under which it acts are changed, and thus unusual phenomena emerge from its necessarily undeviating action. Aberrations from the normal are thus as surely the product of unvarying law as is the normal itself. Accordingly the action of chance is altogether eliminated from the scheme of Nature. The very conception of chance, of the fortuitous, argues the limitation of the human mind. There is in the domain of Nature nothing else but design. When we consider that carnivorous males possess an instinct which prompts them to follow with expectancy the pregnant females before they have brought forth, and, if they discover them, to devour the broods as soon as they are born, and further that the maintenance of the species depends on a sufficient number of the young being saved, we seem to be in a region where chance can alone determine how many, or how few, will be saved; and where, consequently, the continuance of any carnivorous species is at the mercy of chance, and therefore in constant jeopardy.

But when we look to the actual phenomena, we seem to be in a region where the arrangements of

Nature for preserving the species are of a predetermined and fixed character; for under normal conditions the numbers of the various species in their feral haunts do not vary from one generation to another, nor do the relative proportions of the adults and the young. It is thus clearly demonstrated that the elimination of the young broods has stopped at a predetermined point, and that the number saved has been truly and finely calculated.

For unless both the elimination and the preservation had been nicely proportioned in relation to each other, the balance of Nature would be fatally disturbed. It is within our power to discover in what manner and by what methods Nature operates to produce her adjustments, though the perfection and fineness to which these adjustments attain must ever beget surprise in our minds: for in her adjustive processes Nature is too subtle and occult for our eye completely to follow her hand. We can speak of her work in the block, but we are unable to perceive her fingers working out the finer issues of her relative adjustments. When, however, we have ascertained the principle by which the increase of all prolific species is held in check, we have acquired a certain power of following in the steps of Nature in regard to the method employed by her to make the preservation of the broods sufficient, and no more than sufficient, for the maintenance of her various feral types. Let us take some region stocked immemorially with all the forms which it holds to-day, say, the Himalayan

Teraï, the Sunderbunds, the vast woods and swamps through which roll the mighty Amazon and its tributaries,—in short, any fully stocked feral habitat. Such an habitat is one in which, by the wonderful and inexplicable working of Nature, all the various forms of life, vegetable and animal, have found their place, their convenient numbers, and their relative adjustments. I have already remarked how difficult it must be for the female to escape to a place of concealment to bring forth her young untracked by the male. The individual pairs of each species have their own territory, out of which they seem to seldom travel, just as if they were kept within their own bounds by some physical constraint. Take the tiger. It is a solitary animal which with its mate has a certain area over which it roams for its prey. Its roaming-ground will be more or less extensive according to the plenty or scarcity of its prey. Where their natural prey are plentiful, tigers will be said to abound; where, on the other hand, their natural prey are not plentiful, there will be few tigers. Now, in a district stocked from immemorial time, the number of tigers, as indeed of all the carnivora inhabiting it, will be just as large as can be comfortably maintained and supplied with their proper food. I think I may safely say that this is a matter attested by observation, and confirmed by the fact that carnivorous animals continue practically at the same point of numbers from generation to generation. We may posit as a general principle

that Nature having adjusted its prolific species numerically to the capacity of their several coursing-grounds to maintain them comfortably, has thereby arranged that a certain unvarying proportion of the broods shall escape the ken of the male.

Nature, acting through the instincts which she has implanted in each species, brings about her various adjustments, and among them the required proportion of the broods saved to the broods destroyed.

It may be said that what broods will be saved and what will fall victims to the instinct of the male must be the result of chance, and in the ordinary speech of men this manner of speaking may be allowed, though it proclaims the limitations of the human mind. Can it, however, be doubted that the intelligence which works out an invariable general result arranges the particulars to produce it? Is it, I ask, unreasonable to regard it as a certain truth that in a matter so vitally important as the preservation of her feral offspring in their due numbers, Nature has adjusted to the finest issues the operation of the instinct of the males of prolific species, so that in their several runs the proportion of the broods that fall to be saved is, relative to those that fall to be destroyed, a fixed and determinate quantity, constant and unvarying? The amount of elimination by the males will obviously be regulated by the opportunities afforded for the concealment of the female by the range in which the several pairs are accustomed to roam; while again the extent of the range will be

determined by the amount of food for their sustenance which it contains. A more extensive range will not, however, give the female a relatively better chance of saving her broods from the male than will a less extensive one; inasmuch as the larger area will be as thoroughly roamed over and familiar to the species occupying it as the smaller area, from the greater activity demanded from the animals to secure their necessary food. The amount of deletion must obviously be proportionally equal in all fully stocked feral habitats.

Let us now see what provision Nature has made for the recuperation of her species, when they have their numbers decimated by any abnormal cause of destruction. If there were no accidental deaths among the carnivora, no fierce encounters between individuals of the same or of different species, no wear and tear of the jungle, the forest, the desert, and the mountain, we might say that Nature's adjustment of her elimination is the deletion by the male of all but one pair out of six, eight, or ten pairs, as the case may be, in a generation.

But there is, of course, a certain amount of destruction from internecine strife, though in the case of the larger carnivora the tale of deaths from it is but trifling. The casualties of feral life are more or less of the following character. It happens occasionally that when a lion makes a kill and begins to devour it, hyænas and jackals gather round, to wait until the lord of the desert retires, gorged from his

meal. The jackals are content to wait patiently until the lion departs satiated, but the hyænas are more impatient, and it sometimes happens that one too venturesome will try unobserved to snatch a portion of the meat, and pays for its temerity with its life, encountering a hasty blow from the paw of the offended autocrat.

But there occur other causes of destruction beyond the ordinary wear and tear of feral life, such as forest and prairie fires, which frequently in the dry season destroy a multitude of various animals, and extensive organised battues, where a vast circumference is ringed with men, who press forward driving all the wild creatures in that part of the country to an enclosed space, where a great slaughter takes place. When the forest or the prairie fires have spent themselves, and when the beaters and shooters have left the scenes of their havoc, there has taken place a great reduction in the number of the animals in the districts that, in the one case, have been invaded by man, and, in the other, have been devastated by fire. But here the great procreative power of the prolific species exhibits its recuperative potency. The individual runs in the haunts of the several species affected by the agents of destruction have been depleted. The surviving females have accordingly a larger space in which to conceal their broods in their familiar haunts, while the number of the males has been reduced. The consequence is that proportionally more broods are saved, and as these arrive at maturity

the gaps that have been made in the numbers of the species are quickly filled up. Hence it is evident that the several kinds of destruction which Darwin took pains to enumerate are not in reality checks upon the increase of species imposed by Nature, but are mere temporary calamities: for the individuals destroyed by them leave their place vacant to afford ampler room for the females to hide and bring forth in safety. It will now be seen that Nature had a great economic end in view, when she endowed her species with so great a power of procreation; and also that for all her species she employs but one check which is sufficient for her purpose, while she has provided along with it a principle of recuperation which renders all casualties that occur from time to time powerless to prevent the species from being maintained in their due numbers from generation to generation.

Nature's check is not the same for all species. She has one check for man, another for unprolific herbivorous animals, which form the food of the carnivora, another for the carnivora and prolific herbivora, another for raptorial birds, and doubtless other kinds of check for other forms of life which we have not considered.

The destruction of the spawn and small fry by the adult fishes, and of smaller by larger kinds, I take to be Nature's mode of eliminating the excess of reproduction in this domain of animal life. We have here no concealment of the females, or special instinct on the part of the males; for the females take as active a

part as the males in devouring the spawn and smaller fish, whether of their own or of other kinds.

But Nature has provided against the annihilation of her finny tribes from this universal propension to devour one another, by endowing them with an enormous procreative power. The spawn of the cod is said to contain about nine million eggs. Assume that a cod produces in its lifetime fifty million eggs. Of these only two will be hatched and come to maturity and procreate their kind, the rest being eliminated before they reach this last stage. The enormous destruction of the cod in the various seas where the fishing of it is prosecuted by the fishers of all sea-going nations, does not from age to age seem to affect their numbers.

Notwithstanding the continuous drain upon them, their numbers keep at the same point which they would show if they were left undisturbed by the toilers of the sea. The reason is that the continual destruction of the adult devourers by the fishermen permits a multitude of young cod to grow to maturity which otherwise would have perished; and thus the annual destruction made by the fishing fleets, great as it is, is balanced by the number of young cod saved alive.

The potentiality of increase of prolific species sometimes shows its actual power in a startling manner, when the conditions of life of one of them are by man's intervention altered, as has been the case with the rabbit translated from this country to Australia.

The fecundity of this creature is so enormous, that it would task the power of man, even in its confined haunts in Great Britain and Ireland, to keep its numbers within bounds, if it were not that the far greater number of its broods are destroyed by the males.

There are islets in the Hebrides where rabbits are found, and where, the gun of the sportsman is rarely, if ever, heard, where notwithstanding the fecundity of the species, those that are seen are always in good condition, their numbers receiving sufficient sustenance from the scanty herbage clinging to the sides of the rock, or growing in the hollows and by the shore. The instinct of the male acting in so confined a space suffices to prevent them from increasing beyond their existing numbers, while there are always a sufficient number of broods preserved to continue the species undiminished numerically. But when the rabbit was introduced into the Colonial settlements of the Australian continent, the conditions of its life were wholly changed. There were few carnivorous destroyers to thin its numbers, either on the ground or in the air; while illimitable space on every side was afforded to the female to hide her broods away from the ken of the male.

Accordingly, from its amazing fecundity, the species multiplied and spread with the rapidity of wild-fire, with consequences to the agriculturist and to the stockbreeder too well and sorrowfully known to require description.

CHAPTER II.

NATURAL SELECTION, OR THE EVOLUTIONAL VALUE OF THE INDIVIDUAL VARIATION.

I SHALL begin this chapter by making some remarks upon the place of the hypothesis in the march of science. Those departments of knowledge that are called Sciences have developed from small beginnings by the application of general principles or categories to the ascertained body of facts or phenomena belonging to them. Certain phenomena are perceived to be related to each other from having certain features or properties in common. The grouping of these phenomena in categories according to their relations to one another is called 'generalising'. As the study of a science advances, and the known facts increase in number and significance, it is found that larger groupings may be made, as the relations between the groups themselves are found to bring two or more of them into a common category, or it is perceived that the principles of grouping hitherto employed require to be altered, and the categories adjusted to accord with new acquisitions of knowledge. Owing to the limitation of the human mind in regard to abstract or universal truth, a law of Nature must

be considered merely as a generalisation of the effects that are perceived to flow, uniformly and invariably, from the action of a causal principle. It may be said that apart from the mere collection of facts and phenomena, the object of science is to generalise, or, in other words, to establish laws or general principles that may be applied to theoretical or practical uses. But often the amount of knowledge attained in some field of inquiry does not enable the scientist to feel himself justified in designating as a law of Nature a generalisation that is suggested to his mind by an apparent trend of direction in the facts with which he is dealing. Yet he considers himself justified in making it a provisional generalisation or hypothesis, with a view to its future verification or rejection. But, as a scientific principle, every legitimate hypothesis must be a generalisation of known facts or phenomena,—that is to say, it must have its foothold in experience and observation, and, as a justification for its existence, it must have a body of facts apparently trending in its direction.

A hypothesis, according to its etymology, ought to be a principle of arrangement which brings a body of facts under its domination. Whereas that which is termed a hypothesis, but which merits no better designation than a mere guess, or speculative incursion into the region of the theoretical, evolved from a man's inner consciousness, and launched into the world unattached to any body of known facts, is a concept abhorrent from the first principles of

scientific inquiry. The past history of the world has clearly demonstrated the impotence of the human mind to discover by its own unaided power of speculation, the ways and operations of Nature that are recondite and hidden away from ordinary observation.

Her secrets she only yields up to the patient and slow processes of scientific research. The Epicurean philosophers, according to Lucretius, maintained that all things tended to fall toward the centre of the earth. Doubtless this belief was derived from their observation of meteors apparently falling to the earth from, as they imagined, the highest regions of space: for they held the earth to be the centre of the universe. But their belief was little better than a child's guess, and though in regard to terrestrial objects it was true, yet notwithstanding its truth, theirs was an ineffectual article of belief, and one which did not tend to promote scientific research or enlighten the scientific mind.

It was in no sense prognosticative of the great law of gravitation, discovered and expounded by Sir Isaac Newton. The long and arduous processes of abstruse calculation by which his profound intelligence verified the hypothesis from which they started, had not, we may be sure, their origin in his accidentally observing an apple fall to the ground, but had for their precursor a long and careful putting together of a mass of phenomenal observations, perceived by a mind as powerfully practical as it was powerfully speculative. Such, and only such, will ever be the nature of the

hypotheses from which great truths concerning the operations of Nature are brought to the light of day. Was the concatenation of hypotheses, known as the Darwinian theory of Evolution, founded upon such a material basis of facts and phenomena, whether gathered by Darwin himself or by his predecessors in the field of scientific inquiry? Were they, in truth, legitimate hypotheses? To this question there is but one answer. Darwin elaborated his theory by a series of pure guesses, none of them attachable to the known phenomena of Nature.

The Nature and the laws of Nature which we meet with in the *Origin of Species* are not those which we find outside of it. The nearest that Darwin ever came to finding a phenomenal basis for any of his hypotheses was in his doctrine of the Struggle for Existence, which I have nevertheless proved to be in direct contradiction to all the results of observation and experience.

But the individual variation, round which his whole evolutionary theory revolves, is a pure creature of his imagination, differing in its behaviour from all individual variations that experience makes us acquainted with, possessed of principles of action that contravene the laws of Nature to which all other individual variations are subject, an irresponsible entity, having no law or principle of action except the work which it pleases its author to assign to it.

It is my purpose in this chapter to demonstrate that individual variations, under the laws of heredity,

to which they are subject in the realm of Nature, so far as that is within the compass of observation and experience, are impossible material for Nature's evolutionary purposes. An elaborate theory, composed of what I have termed illegitimate hypotheses, and of such alone, ought to have been anathema to the men of Darwin's day. But unfortunately, amid the heated controversies and commotions stirred by the publication of the *Origin of Species*, the assailants of his theory of evolution did not perceive that they were accepting his fundamental principles without making the slightest attempt to verify or disprove them. These are two, namely, the doctrine of the struggle for existence, and the evolutionary power of the individual variation, neither of which was, in any way, called in question or subjected to any kind of examination.

Unexamined, unverified, as to either of these essential points, the evolutionary theory of Darwin was hailed as a glorious revelation by most scientists, and was, after some hesitation on the part of a few, at last embraced by all of them as the impregnable creed of science. Their acceptance of it shows how the scientific mind has advanced since Newton formulated his antiquated boast—Hypotheses *non fingo*. Evolution from lower to higher forms, as the formative principle in the origin of species, had long before Darwin's day been anticipated by other men of science, among whom Lamarck holds a distinguished place.

But until the publication of the *Origin of Species* it had never taken hold of the public mind, nor

become a subject of general interest. To Darwin undoubtedly belongs the honour of making it a subject of general interest, and also of securing its final establishment. But to Darwin's contemporary scientists belongs the discredit of having accepted his explanation of the manner in which Nature attains her evolutionary ends, while as yet his explanation was a mere piling up of assumption upon assumption. In accepting it as it was given forth, without examining, or attempting to verify, his fundamental assumptions, Darwin's contemporaries proved disloyal to science, in that they abandoned and betrayed its first principles, foremost among which is the examination and verification of every provisional hypothesis.

For the benefit of my readers who do not profess to have studied the *Origin of Species* closely, I shall now give a short account of the action, as Darwin has conceived it, of his evolutionary factor, the individual difference or variation.

In the first place, I shall give its assumed action in each generation, and, in the second place, its assumed evolutionary action through measureless tracts of time. In the preceding chapter I have indicated in a general way what the former of these is. However, I trust a recapitulation of it here will not prove unacceptable. In the great and complex battle of life, in the dire struggle for existence, necessitated by the reproduction of each species being much too great to find maintenance

and live, by far the greater number of those that are born must in each generation perish before they propagate their kind; and especially must this be the case with prolific species.

As the closest observation did not reveal to Darwin in what manner those who are born in each generation perish to such a degree as to leave only one pair to succeed each pair of parents, he conceived that it was inaccessible to observation; and therefore had recourse to abstract principles to explain it.

The individuals of a species differ from each other by the particular variations with which Nature has endowed them. The great end of each individual in the universal food struggle being to get food and live, those who are endowed with variations that enable them to get the better of the rest of their kind in the matter of procuring food will be the survivors: all the rest perish from being less effectively varied. Being less strong, or less cunning, or less dexterous in hunting, they, being the weaker, to use the current phrase, go to the wall and perish. "Can we doubt," asks Darwin, "(remembering that many more individuals are born than can possibly survive), that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind?"

According to Darwin, there are three kinds of individual variations: first, the advantageous, that procure survival for those that possess them; second, the injurious, which work to the elimination of their

possessors; for, as Darwin says, "We may feel sure that any variation, in the least degree injurious, would be rigidly destroyed;" third, those variations that are indifferent, being neither advantageous nor injurious. We naturally ask, What occasion had Darwin to create the injurious variation? If slight advantageous variations give their possessors such superiority over the others that they survive, while all the individuals that have less fortunate variations perish, what office or function is left for injurious variations to discharge as eliminating factors that is not equally well discharged by variations slightly inferior to those which give to their possessors survival in the struggle for existence?

Again, when we look to the concrete, or to the actual facts of existence, there does not appear to be any destruction that can be called "rigid" of bad variations. If in a section of an Indian jungle, which contains an average population of 100 pairs of adult tigers, 2100 young are born in each generation, of whom 1900 perish, do all these 1900, or only a part of them, perish from possessing such injurious variations as Nature rigidly destroys?

It matters not what the proportion is, for the result in successive generations is always the same, namely, that 1900 perish. The possessors of injurious variations are in each generation rigidly destroyed, but in each generation there are as many injurious variations as were in the generation before it, and as will be in the generation after it. What

then does Darwin mean by affirming that injurious variations are rigidly destroyed, seeing that they grow up as fast as they are destroyed, and are not, moreover, doomed to destruction more than other variations that go to the wall in the struggle for existence? But it may be observed that in the action of the two factors of Natural Selection, the advantageous and the injurious variations, there is no evolutionary advance achieved. The survivors are always the fittest in their generation to survive: the average of the reproduction, with all beneath and all above the average, are swept away, until the few fittest to survive are reached; but when we reach the survivors there is nothing that gives us any reason to infer that their average is raised from generation to generation.

I do not here press the argument of the previous chapter, that all that we know of Nature's ways and methods seems to assure us that in the survival of those individuals who live to procreate their kind, she does not call in individual variations to do any part of her work, and that those who survive are not a selected class, but represent the average of her reproduction, as I desire to keep apart from the former the argument of this chapter, which is to demonstrate that individual variations can in no case prove evolutionary material. I shall now explain the action through illimitable time of Darwin's evolutionary factor, the individual variation or difference that appears in the course of many successive generations.

In the beginning of his fourth chapter (*Origin of Species*), Darwin, after remarking that man in his domestic productions cannot originate varieties, but can only preserve and accumulate such as do occur, says:—"Unintentionally he exposes organic beings to new and changing conditions of life, and variability ensues: but similar changes of conditions might and do occur under Nature. Let it be borne in mind, how infinitely complex and close-fitting are the mutual relations of all organic beings to each other, and to their physical conditions of life: and consequently what infinitely varied diversities of structure might be of use to each being under changing conditions of life. Can it be thought improbable, seeing that variations useful to man have undoubtedly occurred, that other variations useful, in some way, to each being in the great and complex battle of life should occur in the course of many successive generations? If such do occur, can we doubt (remembering that many more individuals are born than can possibly survive) that individuals having any advantage, however slight, over others, would have the best chance of surviving and procreating their kind?"

It may not be thought improbable, as an *a priori* concept, that in the course of many successive generations there should occur individual variations useful to Nature's wild species as being capable of modifying and developing them; but between this probability and the fact that man, in forming his breeds of domesticated animals, finds certain individual variations

useful for his purposes, there exists no logical connection whatever; and, indeed, I shall demonstrate that the principle of selection which man uses to get his modifying results is one which cannot be used by Nature.

It is another peculiar statement in the passage quoted, that if such modifying and developmental individual variations do occur in the course of many successive generations, we cannot doubt that in each generation advantageous and injurious individual variations determine what individuals shall survive. I cannot discover any connection of any kind between the two assumptions. He would have done better to have assumed favourable and injurious variations doing their work in each generation, and then to have inferred the other.

I shall allow Darwin to explain in his own words the action of his potent individual variation during the course of many successive generations in which it is active. In the following quotation we have Darwin's conception of the developmental ascent from a variety to a distinct species:—"In order that any great amount of modification should be effected in a species, a variety when once formed must again, perhaps after a long interval of time, vary or present individual differences of the same favourable nature as before; and these must be again preserved and so onward, step by step. Seeing that individual differences of the same kind perpetually recur, this can hardly be considered as an unwarrantable assumption. But whether it is true we can judge only by seeing how far the

hypothesis accords with, and explains the general phenomena of Nature. On the other hand, the ordinary belief that the amount of possible variation is a strictly limited quantity is *likewise* a simple assumption."

Before explaining the evolutionary action of the individual variation that occurs in the course of many successive generations, as it is described by Darwin, I shall make a few remarks upon the last three sentences of the above quotation. When he asserts that individual differences of the same kind perpetually recur, Darwin does not mean to affirm that they occur uninterruptedly in successive generations, as the result of continuous and unbroken heredity from both parents. He simply means that sporadically, here and there, they occur frequently in individuals of a species as the result of the variability of the species. As my argument proceeds, it will be seen how unwarrantable is Darwin's assumption that in such circumstances individual differences should be perpetuated, or preserved beyond a few generations.

Again, let us consider what cogency we should attach to the statement that we are to judge of the truth of his hypothesis by seeing how far it accords with, and explains the general phenomena of Nature. The principle of evolution, *per se*, is one thing. A hypothetical theory of the manner in which the principle works is quite another thing. The hypothesis may be capable of being disproved, as, for instance, being shown to contravene inviolable laws of Nature; and yet, so long as it is allowed to go unchallenged, it may stand

for the principle of evolution, and as such may appear to accord with and explain the general phenomena of Nature. For example, Darwin uses the term Natural Selection to express certain processes, which he has assumed to be probably those of Nature in her evolutionary work. But, I ask, is it in his power to say with any authority that such and such phenomena are the result of Natural Selection, when he admits that Nature's evolutionary processes and action must ever remain beyond the sphere of human observation and of human knowledge? "We see nothing," he says, "of those slow changes in progress until the hand of time has marked the lapse of ages, and then so imperfect is our view into geological ages, that we see only that the forms of life are now different from what they formerly were."

In other words, Nature's evolutionary action has been hidden from us by the long lapse of time, and still more by the secular duration required for each infinitesimal accumulation, so that we can never really know anything beyond the fact that a principle of evolution has been at work, producing those changes which we see have taken place, when we compare the present forms of life with those which we know peopled the earth in past geological ages. When, therefore, Darwin says that Natural Selection accords with, and explains the general phenomena of Nature, he can mean no more than that in his opinion he has made a lucky guess, and discovered a hypothetical principle of evolution which does so. But when we study the factors which make up this principle, and

his application of the term Natural Selection to explain the actual phenomena of Nature, we find that what accords with and explains them is not the factors, nor their assumed processes, but simply, and by itself, the principle of evolution which they are supposed to represent. Darwin is not entitled to say more than that an unknown evolutionary principle accords with, and explains Nature's phenomena. This unknown evolutionary principle may not, however, be those processes to which he has given the name of Natural Selection; and I repeat that it is my purpose in this chapter to demonstrate that whatever Nature's principle may be, it is impossible that it can be Darwin's principle of Natural Selection.

Coming to the last sentence of our quotation, I merely draw attention to the fact that Darwin expressly admits in it that his hypothesis as to the evolutionary action of the individual variation in the course of successive generations is a simple assumption.

Let me now endeavour to make as clear as it is possible for me to do, what Darwin has told us as to the action of the developmental variation that occurs in the course of many successive generations. Let us assume that a species has become established in a certain locality. As we are told that the *causa existendi* of each species is not to be happy but to be improved, and as the species of which I speak has been enjoying a period of rest since the last definite modification made upon it by the action, now completed, of a favourable individual difference,

it is waiting for the occurrence of another individual difference of the same favourable nature as before, to improve it still further. This favourable variation at length occurs, and begins its developmental action. Let us assume that the favourable variation occurs in one or two individuals. Darwin has exercised some ingenuity in arguing, though in my opinion far from conclusively, that individuals who have favourable differences are more prolific than those who are less fortunately varied, and that consequently they will increase in numbers faster than the others. As time goes on, he assumes that the favourably varied individuals will become more and more numerous in relation to the common form, which is also undergoing a process of decimation from the destruction of a still larger number of individuals by injurious variations.

At length the individuals possessed of the favourable difference become the common form, and soon none of the old form are left, and all the species possess the favourable difference which has now become a characteristic of the species. But from the time when the favourable individual variation first occurred, until it has achieved its work of modifying the species, and becoming one of its fixed characters, a long interval of time has elapsed, many ages probably, and what has been accomplished is, after all, an infinitesimal modification ; for, as Darwin is fond of repeating, "*Natura non facit saltum.*" As to what now takes place, he says : " A variety, when once formed, must again, perhaps after

a long interval of time, vary or present individual differences of the same favourable nature as before." We are to understand that the new individual difference which begins its modifying work, perhaps after a long interval of time, though it is of the same favourable nature as the last, is another, and different in kind; inasmuch as the last has completed its work, and exhausted its modifying power. Then follow uncounted generations, during which the possessors of the favourable difference get the upper hand, and are established as a new variety, but still differing from the variety which it has supplanted by an infinitesimal amount of modification. The same process is gone through by the next evolutionary variation, and by the next and the next, and so on, step by step; each step adding another infinitesimal modification, until, in the long result of time, a form emerges so far modified from the original as to take rank as a new species, when compared with it.

Thus, taking the original as a starting-point, varieties are first formed, each new variety involving the extinction of its predecessor, and each adding somewhat to the accumulations that have been preserved, made by the series of its predecessors. Next comes the specific form, little altered from the form which it has immediately supplanted, but greatly altered from the original form. Thus a measureless gulf of time has been traversed before one species has succeeded to another, and numberless have been the intermediate varieties that have been extin-

guished. That no intermediate forms had been recovered from the past, and appeared among so many distinct specific forms discovered by geologists, was a surprise to Darwin (who took his own theory seriously), seeing that they must have been so much more numerous than the specific forms. He, however, accounted for their absence by showing the imperfection of the geological record. But the number of extinct specific forms discovered by geologists has been multiplied manifold since Darwin wrote, yet the record of his intermediate forms discovered remains a blank. If the ordinary rules of logic were applicable to evolutionary theories, this unvarying emergence of the few (the specific) and the non-emergence of even a casual example of the many (the intermediate forms) would be considered fatal to Darwin's.

But what I desire particularly to draw attention to is, that when we consider how exceedingly minute was the developmental accretion made when a variety supplanted its predecessor (for this is a point upon which Darwin especially insists), and upon the great number of accumulated variations that were required to form a distinct species, and upon the long lapse of time necessary for each infinitesimal accretion, it is impossible for anyone to allege, with any show of reason, that there can exist experimental evidence of the operation of such a principle as Natural Selection. When, therefore, Dr. Romanes advances what he considers to be proofs of the operation of Natural Selection, he does in reality no more than give proofs of a principle

of evolution having been instrumental in developing higher from lower forms. When, moreover, it is borne in mind that every operation of Nature is in a sense (though not in a Darwinian sense) an act of Natural Selection, it will be easy for his readers to discover that Dr. Romanes' elaborate dialectic when he endeavours to make Natural Selection Nature's agent is rather a manipulation of pedantic language than a dealing with the actual processes of evolution.

Darwin speaks of individual variations that possess the faculty of lying latent for many, perhaps for hundreds of generations. I am not sure whether he means these to be considered evolutionary factors; for, if he means this, I find myself unable to assign them any fitting place in his scheme of Natural Selection. 'It is, however, possible that he has introduced those extraordinary variations merely to impress his readers with the general independence of individual variations and their freedom from subjection to the law of inheritance.

I now proceed to deal with the significance in organic life of individual variations or differences.

In the second paragraph of chap. ii. Darwin writes :—
“ No one supposes that all the individuals of the same species are cast in the same actual mould. These individual differences are of the highest importance for us, for they are often inherited, as must be familiar to everyone; and they thus afford materials for Natural Selection to act on and accumulate in the same manner as man accumulates in any given direction individual differences in his domesticated productions.”

I shall show that though individual differences are often inherited, they cannot, in the free arena of organic life, be transmitted through successive generations; that by her own established laws Nature has deprived herself of the power of selecting them, and of keeping up the continuous copulation of like with like; that, therefore, she cannot accumulate them as man does in his domesticated productions.

I must here be somewhat elementary, so that I may emphasise the distinction between individual variations and specific and generic characteristics—a distinction which throughout the *Origin of Species* Darwin appears inclined to suppress. In the more highly organised creation all existing species are derived from genera that have become extinct.

All species, and of course all the individuals of each species, inherit from the old genera. The characteristic marks of each species are, for the most part, modifications of those of the genus from which it has been derived, which modifications have been transmitted by uninterrupted inheritance through a long succession of generations.

But each species, under the action of changed external conditions, has been changed in certain particulars of function and structure in the process of being adapted to its new environment. The changes thus superinduced upon the old generic characteristics form the characteristic marks that distinguish the different species of each genus from one another. The present characteristics of each

existing species have, in all likelihood, been formed or accumulated during many changes of environment, caused by changes in the surface of the globe, compelling the various species to separate and disperse, and so come under diverse external conditions. The multitude of rudimentary or atrophied organs, that seem to be more numerous the higher the type, point to far remote ancestral genera, that differed greatly in form, structure, and function from the existing forms; while the many cases of what is called reversion point to the characteristics of more recent but still extinct genera. To this category belongs the frequent recurrence of stripes in individuals of species that do not generally show them, as in the young of equine animals, telling of their descent from progenitors that were distinguished characteristically by stripes. Though occurring in individuals of existing species, they cannot be regarded as individual differences, but must be considered as generic characteristics, that have come to the surface from a principle of inheritance, that, under the changed conditions of existence, is slowly dying out, but is still sufficiently active to assert its power in a faint sporadic fashion.

On the other hand, we have naturally formed varieties of species, that have not yet attained to rank as species, which have been formed under the action of new external conditions, giving them a certain differentiation from the parent, and also from one another. The characteristic of varietal, as apart from specific forms, is that the reproductive organs have

not yet become so affected as to prevent them from breeding with the parent form and with one another. But as further modification ensues from other changes in external conditions, the reproductive system becomes so altered as to prevent them breeding beyond their own now fixed type. It is no wonder, therefore, that much controversy has arisen among naturalists as to whether certain forms are to be regarded as specific or as merely varietal.

When, in dealing with the origin of species, we endeavour to look beyond the present phenomenal world and recover the past, we find a thick oblivious curtain drawn before our eyes, with a few rents and chinks here and there, through which we see darkly, and obtain a few obscured peeps into the laboratory of Nature, and discover, far apart from each other, some few traces of her footsteps in her evolutionary progress.

Our knowledge of Nature's developmental action and processes is as yet very amorphous; and the present conditions are exceedingly favourable to the cosmos-theory builder. The scientific mind is anxious to know, and is impatient of problems that baffle its research. It has been, therefore (we may assume so much), far too ready to accept as authoritative a creed that professes to have torn the veil from Nature's face, and by the aid of a systematised grouping of assumptions, more or less plausible, to exhibit Nature's creative power and energy at work. Modern scientific research, however, made a most important and illuminating discovery when it established the fact that all

living organisms are built up of the same material, protoplasm and the protoplasmic cell; and also when, by the study of comparative physiology and embryology, it revealed the fact that the higher vertebrates were once fish forms disporting in the waters formed by the condensation of the vapours of the slowly cooling earth.

With the light that has been gained from various fields of research, it is impossible to refuse accepting the doctrine of evolution, and, as sufficiently demonstrated, the fact that all the higher forms of life have been evolved from lower forms. But though constrained to accept the evolutionary principle as explanatory of the origin of species, I do not feel myself brought one whit nearer to the acceptance of Darwin's doctrine, which professes to describe the *modus operandi* of Nature in her work of development.

The laws governing inheritance are for the most part, according to Darwin, unknown. Thus we cannot tell by what process carried on in Nature's laboratory every single egg in a nest is differently specked or mottled from all the others, or how it comes to pass that each animal belonging to the same litter has its own particular traits differentiated from those of the rest of the litter, or how we find in the same family one member taking more after the father, another more after the mother, while a third seems to inherit in a very small degree from either. In this respect the law of inheritance is beyond all human calculation; but it is not a matter to cause surprise that it should

be so, when we consider what is palpably Nature's object in bestowing individual variations. That object is to avoid monotony, or a principle of stagnation in her productions, by maintaining endless diversity in an all-embracing bond of unity, or, in other words, to impress upon each member of a species its own individual stamp and character within the compass of a determinate and fixed specific type.

We shall find that Nature, in the exercise of her creative power, does not permit the individual variant to wander forth outside of its determinate specific form, so as to build apart, and by its own energy, a new variety or a new species. This would be an absolutely anarchic principle, utterly subversive of Nature's scheme of preserving her leading types, and tending to the production of an irregular and fantastic multitude of new forms. Nature, as we shall hereafter see, has her own method of modifying and altering her specific types, without permitting their individual members, as such, to take any part in her work of modification. It is an altogether illogical inference of Darwin's, that because man can and does use individual differences to build up new varieties of his domesticated species, therefore Nature can and does use them to originate wild species in their native haunts. No doubt all-powerful Nature could use individual variations to accomplish the same end in regard to her wild species which man achieves in regard to his domesticated breeds, if it served her creative purpose to do so. But in order to do so, she

would require to endow them with properties which at present they do not possess.

Man in forming a new variety uses, and can only use, individual variations. By his power of selecting and isolating the individuals suited to his purpose he is enabled to modify and vary his breeds in many directions. But one thing he cannot do. He cannot give his modifications specific fixity, so as to prevent his modified animals from crossing, when opportunity offers, with other breeds of the same species. Thus, when he ceases to select his individuals, and to isolate the breed, permitting its individuals to have free intercourse with individuals of other breeds, that breed is doomed to speedy extinction; for Nature has not made the possession of similar variations a means of attracting the sexes to each other. This fact, when we consider that the maintenance of any type depends upon the constant copulation of like with like throughout successive generations, is pregnantly suggestive of the fact that Nature does not intend individual variations to possess any evolutionary value. In modifying her specific forms, Nature, as we shall see, employs only specific characters—that is, characters that belong to all the individuals of the species. She therefore secures the results which she contemplates by the unbroken and uninterrupted copulation of like with like.

Before proceeding to a more detailed examination of the properties and functions of the individual variation as shown in domestication, which provides

us with the best means of discovering the action of the law of inheritance, I shall take the opportunity of making a striking quotation from a celebrated passage in the fourth chapter of the *Origin of Species*, distinguishing for the sake of comment its several parts by the letters *a*, *b*, *c*, and *d*.

(*a*) "He (man) does not rigidly destroy all inferior animals, but protects, during each varying season, as far as lies in his power, all his productions. (*b*) He often begins his selection by some half-monstrous form; or at least by some modification prominent enough to catch the eye, or be plainly useful to him. (*c*) Under Nature the slightest differences of structure, or constitution, may well turn the nicely balanced scale in the struggle for life and so be preserved. (*d*) How fleeting are the wishes and the efforts of man! how short his time! And consequently, how poor will be his results, compared with those accumulated by Nature during whole geological periods! Can we wonder, then, that Nature's productions should be far 'truer' in character than man's productions; that they should be infinitely better adapted to the most complex conditions of life, and should plainly bear the stamp of far higher workmanship?"

(*a*) Experience and observation unite to disprove Nature's alleged destruction of her inferior animals. (*b*) It is true that man selects for the formation of a new breed some modifications, or individual variations, which he thinks will be useful to him; while, as we shall see, it is true that Nature possesses no such

power of selection. (c) This sentence gives a distorted view of Nature. (d) There is no occasion for wonder that Nature's productions should be far "truer" in character than man's, and should bear the stamp of far higher workmanship; for the simple reason that they work with different materials. Man works with fugitive and unfixable entities, namely, individual variations; while Nature builds up her new creations with the fixed and permanent material of specific characters.

In forming a new breed, man selects individuals suited to his purpose as possessing certain variations which he wishes to render prominent and emphasised in his contemplated new form. Having secured a sufficient number of similarly varied individuals, he proceeds to isolate them so that they can only breed among themselves. Accordingly, their offspring inheriting from both parents, will generally possess the same variations, and being in their turn kept in isolation like their parents, will transmit them to their offspring. But as no two individuals ever are exactly identical, or without some points of variance, it frequently happens that in the incalculable play of Nature's individualisation, all the offspring are not cast in the same mould of trueness to the type which the breeder wishes to preserve. He removes, therefore, the more untrue individuals, keeping only those that more truly approach his ideal form. Thus a new breed is formed, and preserved from generation to generation, from breeders keeping their eye fixed on the same ideal

form, selecting carefully their individuals, and maintaining carefully the process of isolation.

In forming and maintaining his breeds, man is only taking advantage of Nature's law of inheritance, and of its immutable and universal principles of action. For Nature to produce similar results to man's artificial selection, she would require, like man, to select her individuals so that the similarly varied should mate only with the similarly varied, and to isolate them from generation to generation, so as to prevent intercrossing.

Let us even assume, for argument's sake, Darwin's contention that in the war of Nature those individuals who survive are selected individuals from their having been possessed of advantageous variations. These advantageous variations are of so many different kinds, that, of one hundred survivors in the struggle for existence, we cannot suppose that more than four could be mated as possessing the same variations. The question then arises: How, in the free arena of a natural habitat, could Nature isolate the similarly varied four per cent. from the other individuals of the species?

To evade the difficulty arising out of this question, Darwin says some extraordinary things, among which I may particularise the following:—"Even with animals which unite for each birth, and which do not propagate rapidly, *we must not assume that free intercrossing would always eliminate the effects of Natural Selection*: for I can bring forward a considerable body of facts, showing that within the same area two

varieties of the same animal may long remain distinct, from haunting different stations, from breeding at slightly different seasons, or from the individuals of each variety preferring to pair together."

If two varieties of the same animal in the same area (presumably an extensive one) haunt different stations, they are practically isolated, and do not cross with each other.

If, again, two varieties (?) in the same area breed at different seasons, or if their individuals prefer to pair together, it is obvious that their reproductive systems have been so materially affected as to entitle them to be regarded as species, not as varieties.

It is to my mind an outrage upon science, upon the action of natural law, and upon common sense, not to assume that free intercrossing will, in every case, eliminate any defined variety, and that very speedily. A very small amount of intercrossing will frustrate all attempts of man to form a definite breed.

It is time now to consider the fugitive nature of individual variations. Mr. Galton in his interesting work treating of inherited genius, shows that it is not uncommon for high intellectual endowments to manifest themselves in successive generations in members of the same family. Remarkable sons succeed remarkable parents, and it is also not unusual for nephews of the first distinguished man to display as great talents as himself, if not greater.

This makes it clear that the inheritance came from the parents of him whom we may call the founder of

the name. But of the multitude of cases which he adduces, in none is the inheritance of special intellectual power carried beyond the fourth generation. He also draws attention to the fact that the highest display of genius is found either in the first or in the second generation, from which point decadence sets in. This is just what we should expect, when we consider the nature of the inheritance of individual variations.

The principle illustrated by Galton, as ruling in the transmission of inherited genius, must have prevailed from the beginning of creation in regard to all purely individual qualities or variations, for Nature never changes her laws. Experience and observation, as well as the nature of the case, agree in affirming that the transmission of inherited individual variations is ruled by the same principle of transmission as the inheritance of blood. Our confidence in regard to this principle of transmission is in no way affected by our ignorance in regard to the incalculable action of Nature in giving different degrees of inheritance to the offspring of the same parents, or in regard to her causing certain variations to lie latent for a generation to reappear in the next.

For these seeming vagaries of Nature do not invalidate the necessary action of marriage in destroying within a few generations, and bringing to nothing the potency of individual variations. Individual variations very rarely, if ever, lie latent for two successive generations, and rarely, if ever, do more than reappear a second time in the fifth generation. We see them

sometimes reappear in the third and fifth generations after having lain latent in the second and fourth in the case of certain diseases that attack man. There are those who assert that an inherited fatal disease, though passing over alternate generations, pursues the family of the person in whom it first appeared, until all its members are, in the course of a few generations, killed off by it. But this statement rests upon no substantial basis. Marriage into healthy families first checks, and then kills off the disease, owing to its being extruded by healthier elements.

When we consider that in Nature's wild haunts individuals who possess similar variations are but a few in a crowd, and that similarity of variation acts in no way as a means of bringing the sexes together, it becomes obvious that the pairing of two similarly varied individuals must very rarely take place. If, however, such a marriage did take place, remembering that only one pair survives out of all the progeny of a pair for a generation, it would indeed be passing strange if one of the surviving pair found a mate individually varied like itself. That the same thing should occur a third time in succession would enter into the sphere of the miraculous. But Darwin maintains that nothing is too hard for his potent principle of Natural Selection, and that in some way or other, which he does not explain, it brings about a sufficient amount of pairing to accumulate the desired variations towards the genesis of a new species. But where does the selective principle come in, and

.

how does it act? This is, indeed, the crucial question. In what manner and by what processes does Natural Selection (for the sake of argument I assume the existence of such a principle) select the individuals in its formation of a variety? How does it take them out of the crowd of other individuals, and pair them like with like? It is quite beside the mark to say that because man can select and isolate, we must believe that Nature, by means of her great principle of Natural Selection, can also do so; for the conditions under which Natural Selection must operate are such as to prohibit the pairing of similarly varied individuals through successive generations.

The marriage of two diversely varied individuals produces in their offspring a certain blending of the variations of the parents, in which, as a rule, the inherited variations are seen to be weakened owing to portions of them having been extruded, while some variations seen in one or other of the parents do not appear at all; and again variations that were not apparent in either of the parents make their appearance in the children, as if they came direct from Nature's laboratory. Some of the offspring may inherit more largely from the one parent, and some more largely from the other. These offspring in their turn marry, each with an individual differently varied from itself. In their progeny there occur a further extrusion, and a further weakening of the variations inherited from the grandparents, while half of their variations are from a new source. Every

subsequent marriage of the descendants of the first pair causes an inrush of new variations, and an extrusion or weakening of the inheritance from them, until that inheritance is finally swamped out, and appears no more. Thus Nature keeps ever fresh the individualisation of her species. The ejected liquid of an alarmed cuttlefish darkens the water immediately in its vicinity; but what effect is produced on the ocean after it has spread a mile from the spot?

Let us assume, for the sake of argument, that no individual variation is wholly destroyed or extruded in the course of successive generations, but suffers indefinite dilution. In the tenth generation from an ancestor his descendants will possess less than a thousandth part of his variation: in the twentieth, less than a millionth part. That individual variations can in any way evade or elude the destructive effect of marriage is inconceivable. As far as reliable observation has gone, they have invariably been found to fade and to ultimately perish. It is possible to say up to a certain point that the law governing inheritance is unknown; but this has reference only to its incalculable action from one generation to another. No one can tell how the inheritance of individual differences will be portioned out among the several offspring of a pair, or how many new elements of variation will appear in them. But through all this individualising play of Nature there is one fixed operative principle that never ceases to work and produce its inevitable effects, and that is the law of marriage, effective either

way—for preservation, when like is paired with like through successive generations; for destruction, when there is the constant mingling of dissimilar individual differences by the free intercrossing that is the rule among Nature's tribes.

There is no law more inevitable and more sure in its action than this law of marriage. In the realm of Nature it preserves the characteristics of species, and acts to the speedy extinction of individual differences: for thus has Nature willed that it should be.

If a negro in this country be married to a white woman, and their descendants constantly marry white persons, the traces of the black blood will be found to have completely disappeared in the seventh generation, though it is distinctly traceable in the fifth. Galton's investigations in respect of inherited genius confirm this principle of extrusion of individual differences after a few generations. Darwin's endeavour to deny the destructive effect of the free intercourse which takes place in Nature upon individual variations, and his implicit assertion that there are variations which resist its influence, and do not merely maintain themselves through constant intercrossing, but go on accumulating from time to time as opportunity offers, have caused me more surprise than anything I have encountered in the course of a long life's reading. In his treatment of it, and to subserve the requirements of his theory, the individual variation becomes an utterly lawless principle, a quite irresponsible entity, building up species by means unknown to Nature, and

in circumstances and under conditions where its preservation is absolutely impossible. But the last outrage he inflicted upon the intelligence of his day and generation was his assuming an indefinite power of latency as a characteristic of individual variations. The frailest, the most fugitive and evanescent of entities, the individual variation, is endowed by him with an endless life and an indomitable, undecaying vigour; not that he conceives of it as always effectively living or effectively operative, but he conceives of it as going to sleep, probably for hundreds of generations, while its unconscious lips keep muttering *Resurgam*. At length its slumber is dispelled, and all unaffected and unharmed by the constant inrush and outrush of its fellows, it starts to active life with undiminished potency, to subserve perchance, in some unknown way, some evolutionary end. It is perhaps the most irrational of all the unauthorised assumptions which form the factors of his extraordinary theory, yet it has proved one of his most splendid triumphs over the intelligence of his followers. It is conspicuously utilised in the philosophy of Spencer: it has entered as a heritage of civilisation into the thought of Christendom. All writers of fiction explain traits in the characters of their personages as being resuscitations of traits that belonged to long forgotten ancestors. There is no end to the silly trash that is heard everywhere concerning what has been named *Atavism*, to wit, the reappearance of the imaginary ancestor's traits. I have been told of a preacher, an enthusiastic admirer

of Mr. Herbert Spencer, who, speaking of heredity, startled his congregation by averring that a sudden gust of passion in a private house in London to-day might bear fruit a thousand years hence in a series of frightful murders in Australia or in the wilds of Africa.

Let us see how Darwin maintains his contention. The paragraph which I now quote occurs in a disquisition where he is apparently dealing with specific characters, but, as will be seen, the paragraph has reference not to specific characters, but to individual differences, and thus illustrates his habit of confusing those two very different things. As before, I mark off the different sentences with alphabetical letters enclosed in brackets, for the sake of comment.

The paragraph runs thus:—“(a) No doubt it is a very surprising fact that characters should reappear, after having been lost for many, probably for hundreds of generations. (b) But when a breed has been crossed only once by some other breed, the offspring occasionally show for many generations a tendency to revert in character to the foreign breed—some say—for a dozen, or even a score of generations. (c) After twelve generations the proportion of blood (to use a common expression) from one ancestor is only 1 in 2048, and yet, as we see, it is generally believed that a tendency to reversion is retained by the remnant of foreign blood. (d) In a breed which has not been crossed, but in which both parents have lost some character which their progenitor possessed, the tendency, whether strong or weak, to reproduce the

lost character might, as was formerly remarked, for all that we can see to the contrary, be transmitted for almost any number of generations. (e) When a character which has been lost in a breed reappears after a great number of generations, the most probable hypothesis is, not that one individual suddenly takes after an ancestor removed by some hundred generations, but that in each successive generation the character in question has been lying latent, and at last, under unknown favourable conditions, is developed. (f) With the barb pigeon, for instance, which very rarely produces a blue bird, it is probable that there is a latent tendency in each generation to produce blue plumage. The abstract improbability of such a tendency being transmitted through a vast number of generations is not greater than that of quite useless or rudimentary organs being similarly transmitted. A mere tendency to produce a rudiment is indeed sometimes thus inherited."

In discussing the above paragraph, I shall not hurry over the ground, as the whole question of the inheritance of individual differences is involved.

(a) It would not only be very surprising, it would be absolutely miraculous, if characters, whether generic or individual, should, as the effect of inheritance, reappear "*after having been lost* for many, probably for hundreds of generations."

In the case of generic characters, the fact of their having entirely disappeared for so long would signify that their tendency to reappear had died out of the

species. In the case of individual variations, their reappearance as the effect of inheritance is, after a few generations have passed, rendered impossible by the law of marriage. Nothing, however, forbids them from appearing again, even in the same family, as resulting from the variability of the species. The inheritance of blood after an hundred generations has diminished to less than $\frac{1}{1000,000,000,000,000,000,000,000,000}$ th; after two hundred generations, the cyphers require to be extended to sixty.

Yet Darwin does not say that *it would be* very surprising *if characters should* reappear, but he says that *it is* very surprising *that they should* reappear: implying that to his knowledge, or at least to his belief, they do reappear, and do so by inheritance, after having been lost for many, probably for hundreds of generations. Surely so monstrous a statement transcends the bounds of all credibility.

(b) It is important to observe that this sentence refers entirely to individual differences. A breed is formed by man's accumulation, in a given direction, of individual differences, by selection and isolation. Therefore two breeds differ from each other by their accumulations of individual differences being made in different directions. If Darwin means, as the sentence reads, that all the members of a breed are paired with members of another breed, then the "only once" crossing would result in their progeny inheriting equally the characters or variations of both breeds. The consequence would most likely be confusion, from the differently derived variations nullifying, to a great extent, and counter-

acting each other. If, however, the mixed breed were divided into two sections, and one section was constantly paired with individuals belonging to the one breed, and the other section with individuals belonging to the other breed, then after six or seven generations the progeny of the one section would be true to the type of the one breed, and the progeny of the other section true to the type of the other breed.

In a case which admits of no evidence from direct observation, and such a case is this, the only method that ought to be adopted by inquiring science is to consider the action of the natural law involved, and if we know the processes by which the law acts, to determine in accordance with its action. Now all observation that has ever been certified declares that the inheritance of individual differences is dependent finally on the inheritance of blood. When we consider the constant intrusion and extrusion of variations, caused by the action of marriage, it is impossible to conceive of its being otherwise. We take into account, of course, the unknown play of Nature in regard to individualisation from one generation to another, of which I have already spoken, and the recurrence of individual variations in alternate generations for a limited period, or so long as the amount of blood remaining is sufficiently potential.

But the law of extrusion holds on its remorseless course, weakening in the first few generations, and speedily extinguishing, as to potential action at least, all individual variations. As far as observation can

speak, it declares this to be the action of marriage with no uncertain voice. What, then, are we to think of Darwin's "Some say" as evidence for what seems to be an impossibility, viz. the transmission, whether explicit or latent, of individual characters "for a dozen or even a score of generations"?

(c) In the twelfth generation of the descendants of the ancestor the fraction of his blood remaining in each individual is 1 in 4096, and in the twentieth, less than one in a million parts.

It is quite as easy, apparently, for Darwin to believe that individual variations can be transmitted to the twentieth as to the twelfth generation; and I agree with him, with this difference, that while he believes such transmission to be possible and to take place in both cases, I believe that it is as impossible in the one case as in the other.

Take note of his change of expression. In the previous sentence it was "Some say"; it is now "And yet, as we see, it is generally believed." This is characteristic. Most readers of the *Origin of Species* cannot have failed to note that while he introduces each new hypothesis by "We may suppose," or "Let us assume," when next the assumption is met with, it is introduced as a law of Nature by some such phrase as "As we have seen."

(d) This is not an easy sentence to understand. Does the word "breed" refer to an individual or to the collective breed? In the latter case, the statement that both parents have lost some character

possessed by their progenitor means that the character has died out of the whole breed.

Let us, for a moment, consider not a breed, but a species in the free life of its native haunts. There is ample evidence that in the derived species generic characters tend to die out very slowly, when once they have been overlaid by the specific modifications that have taken their place. The inherited tendency from the old form shows itself sufficiently potent to break forth through the overlying specific characters, so that characters belonging to the genus that have ceased generally to appear in the derived species are sporadically, now in this, now in that, found in individuals.

But while this tendency to reappear asserts itself, and continues, no generation passes without several cases of their reappearance in individuals. As all the individuals of all the derived species possess this tendency by reason of their inheritance from the genus, the generic characters that are liable to reappear may, in a manner, be said to belong to the variability of the species, though when they reappear they cannot properly be called individual variations. But this tendency of generic characters, which in the lapse of time have become faint and weak as compared with their vigour in the old form, to reappear continues to be ever on the wane and to become weaker as the ages pass, and the day shall surely come when it will cease altogether. This day has assuredly come for that species which has lost for all its indi-

viduals the traces of generic markings for one hundred, not to say, for hundreds of generations.

Leaving now wild Nature for the products of domestication, let us suppose that Darwin means to assume that in the collective breed some character of the ancestor has disappeared for many generations. In such a case the tendency to reproduce the lost character might, he says, "as was formerly remarked, for all that we can see to the contrary, be transmitted for almost any number of generations." Let us remember that he is here speaking of the individual variation. Experience and observation inform us that the law of marriage destroys all individual differences before the seventh generation. Darwin, however, informs us that the individual difference can lie latent, and in this state be transmitted for almost any number of generations, for all he can see to the contrary!

(e) This sentence begins, "When a character has been lost in a breed." He accordingly is speaking here also of individual variations. Every breed—that is, every variety artificially formed by man—is made by the accumulation of individual differences that appeared in the individuals selected by the breeders to form it. These differences belong, therefore, to the variability of the species as well as of the breed, and have a tendency, accordingly, to break out occasionally in all the breeds of a species, even in those formed by differences accumulated in quite a different direction. We may therefore read the sentence thus:

When an individual variation which has been lost in a breed that originally possessed it as one of its distinguishing marks reappears after having been lost for a great number of generations, how are we to account for its reappearance? Why should scientific men be asked to answer such a question? Such a case can never have occurred within man's knowledge. Such an occurrence, indeed, can never have taken place.

I shall, however, conceive that it has taken place, and give my answer accordingly. There can be but one way of rationally accounting for it, viz. that it has come direct from Nature's laboratory, as part of the variability of the species. But to his hypothetical question Darwin mentions two hypothetical answers, one of which he considers the more probable. The answer which he rejects is that one individual suddenly takes after an ancestor removed by some hundred generations.

Wherein this answer differs from that which he prefers I cannot conjecture, for they seem identical: unless, indeed, he means that in the former case there is a complete break off from the principle of hereditary transmission, as in my explanation of the assumed but impossible fact. But if he means this, the words "takes after an ancestor" ought not to have been used, as the reappearance of the individual variation is due to the variability of the species, and not to the existence of an ancestor who had the same variation. The explanation of the far removed ancestor's

variation reappearing in an individual, which Darwin prefers, is that the character in question has been lying latent, and at last, under unknown favourable conditions, is developed. It is impossible for me to follow him into this region of mist and clouds. I feel more at home in the domain of natural law and logical sequences.

(*f*) In the paragraph which immediately precedes that which has been so far the subject of our comment, Darwin has written:—"With pigeons, however, we have another case, namely, the occasional appearance in all the breeds of slaty-blue birds with two black bars on the wings, white loins, a bar at the end of the tail, with the outer feathers externally edged near their bases with white. As all these marks are characteristic of the parent stock-pigeon, I presume that no one will doubt that this is a case of reversion and not of a new yet analogous variation appearing in the several breeds."

We have here the case of generic characters overcoming and replacing the individual variations that have, by man's accumulation, become the characteristics of the several breeds derived from a form still extant, and from which their derivation has been of very recent date. The tendency of the generic or specific characters to reappear is always more or less present in the breeds that have been artificially modified from them. As in the offspring of a breed the amount of individual inheritance from the parents is always an indeterminate quantity, varying from

slight to very strong, it may well be that where the inheritance is weak the influence of generic pressure will overcome the overlying individual variations, preventing them from appearing, and replacing them by the generic markings. The difference between the various breeds of pigeons is very extraordinary; nevertheless, under the influence of the generic pressure which is their common inheritance, we find individuals of all the breeds throwing off their varietal characters, and appearing as if they were the direct offspring of parental stock-doves. Individuals belonging to different breeds, such as the tumbler, the carrier, the runt, the barb, the pouter, the turbit, the jacobin, the trumpeter, the laugher, and the fantail, come into the world devoid of their proper characters as such, and differing in no respect from the wild wood-pigeon, their common ancestor.

The difference between generic characters and individual variations is here made very apparent. The former persist in appearing sporadically, long after their pristine vigour has waned during a long series of generations, owing to breeds derived from a common specific form, or species derived from genera perhaps long extinct, inheriting in all their individuals, from their unbroken descent, the tendency to reproduce them. Individual variations, on the other hand, of all frail things the frailest, the most fugitive and evanescent, are unable to maintain themselves in the free intercrossing that takes place in Nature, and die out in the course of a few generations. The same

variations appear in many individuals, and may after many generations reappear in the same family, not however by inheritance, but owing to their belonging to the variability of the species. The fugitive and unstable nature of individual variations is strikingly demonstrated by the fact that they are liable to fall off in a body from individuals of a breed, even when they have been accumulated by man's action for many generations, to give place to generic characters, whose tendency to reappear has been transmitted by an unbroken inheritance through uncounted generations.

"Reversion" is not a happy word by which to express the appearance in individuals of a species of old generic markings. The force comes down the stream from above, and does not ascend from below. The individual does not revert, but is overcome by the pressure of generic transmission. Of such a nature are the following cases instanced by Darwin. When a spinal stripe is found in horses of the most distinct breeds; when transverse bars are found in duns, mouse-duns, and more rarely in chestnut horses; when the foal of an ass has very distinct bars on its legs, like those on the legs of a zebra; when the stripe on the shoulder of an ass is sometimes double and is very variable in length and outline, we have cases of the usually repressed generic characters forcing their way through the opposition of specific characters, and making themselves visible.

The paragraph upon which I have commented in such detail, taken in connection with the examples which he

has given of the persistency of generic characters in appearing in individuals of derived species, constitute the sole foundation upon which Darwin has based his assumption that individual traits persist through constant intercrossing in maintaining themselves for a dozen and even a score of generations, and that they have the power of lying latent, and of transmitting from the time when they first appeared in an ancestor, a tendency to reappear for hundreds of generations, until, under certain favourable conditions, they are resuscitated with developmental vigour. It is in this paragraph that Darwin reaps the harvest of having with infinite skill and dexterity confounded two entities so different in their nature as generic characters and individual variations.

All the persistent vitality of generic traits acting through an inheritance unbroken and continuously transmitted since the origin of the genus, is transferred to the fugitive and unfixable individual variation, which Nature has deprived of the power of maintaining itself, by depriving it of the power of hereditary transmission, and to which she has assigned but a few generations as its natural lifetime. Having decided upon this transference of properties and qualities, Darwin was enabled to liberate the latter from all bondage to natural law, giving to it the power of fixing itself at any stage, and of accumulating under impossible conditions, and of building up new species upon the most grotesque and fantastic of all possible hypothetical foundations.

It seems incredible that even the most enthusiastic and imaginative of cosmic theorists should have selected as the pivot round which to make his evolutionary scheme revolve the evanescent individual difference. Impossible, assuredly, it would have been had Darwin possessed the vast and comprehensive intelligence with which the author of the creed of science has been credited; had he, indeed, possessed any true insight into the secret ways of Nature.

It will now be seen that in dealing with Darwin's doctrine of evolution, which has become by universal adoption the accepted creed of science, I have not, in any way whatever, been dealing with a scientific creed—that is, a creed that is based upon the facts and phenomena of the natural world, and that was accepted after a careful and painstaking investigation of its fundamental propositions and processes.

I have been dealing with a creed composed of speculative audacities, of imaginary cosmic forces and principles, of daring leaps into the unknown, that have no connection or correspondence with the known forces, processes, and phenomena of Nature, and that are demonstrably false. Nothing more crude, more unscientific in construction, more frivolously daring in invention, has been offered for the acceptance of humanity, since the amazing cosmic theories of the semi-Christian, semi-pagan Gnostic philosophers were formed.

All the theoretical assumptions of Darwin which make up his doctrine of the Origin of Species, and

constitute the creed of science, are insinuated into the belief and commerce of mankind by being admirably tricked out in alluring costumes of fine phrase-making and artful and dexterous nomenclature, with a marvellously clever adaptation of style to the concepts of philosophic thinking and scientific deduction.

His assumed factors and processes run side by side with his groupings of scientific facts which they are audaciously said to explain, without really touching each other, without ever at any point establishing a vital connection. His initial assumptions, along with those that are from time to time invented to serve the needs of his advancing theory, are simply gaily dressed marionettes, prancing through his book in gorgeous attire; but being in themselves mere sticks hung upon wires and pulled by a string, they are dead things, having no power of living contact with the facts which they have been invented to explain.

Nevertheless, by the dexterous prestidigitation of the master, his assumptions and the actual facts of Nature are so cleverly interwoven and mixed up together, that the unwary reader finds himself assenting to statements in which the facts are explained by the assumptions, although the latter have no material *causa existendi*, or claim to be accepted. As a naturalist, or Nature specialist, no man was better equipped with the knowledge of his particular subject, with familiar acquaintance with the labours of his predecessors, with keener powers of minute observation,

with a more ardent and eager spirit of inquiry, than Darwin to enable him to achieve the task of discovering the *modus operandi* of Nature in effecting her evolutionary work, if indeed the achieving of that task is attainable by present-day science.

Nevertheless he failed utterly in his endeavour to discover Nature's evolutionary method. But his failure was concealed from his contemporaries, whose eyes were dazzled by his apparently exhaustive knowledge of the whole field of research explored by the botanist and the natural historian; and quite as much by the spell and glamour of his literary style, nervous and direct, free from affectations, abounding in felicitous phraseology, glowing, as his readers were constrained to feel, with the enthusiasm and unlimited self-confidence of one who had a great message to deliver to the world. When Darwin in his great work anywhere confessed to finding himself at fault or doubtful as to anything, his admirers were staggered, and held up their hands, in almost reproachful amazement, at the excessive modesty and humility of this man of boundless knowledge and universal insight. Those who still ventured to ask if his theory was not purely hypothetical, made up of assumptions unattached to the phenomena of Nature, were pitilessly bludgeoned with indignant scorn, and denounced as too stupid to admit of being reasoned with.

It was darkly hinted of objectors, that they still believed in a God, that they still saw design apparent in "the infinitely close-fitting and complex mutual

relations of all organic beings to each other," and that they were capable of holding the opinion that conscience and the moral nature of man were something more than the results of molecular movements and cellular agitations. It was very unsafe in those days to doubt the validity and authority of a single assumption of the author of the creed of science.

There is, I think, somewhat more tolerance at the present day ; at least, within the last few years I have come across sporadic magazine articles whose writers have been permitted to assail on several points the accepted creed, and even to direct attention to the fact that there is not a single point at which Darwin's theory establishes a vital connection with Nature and her known laws. As may well be supposed, I who do not accept, but spurn Darwin's explanation of the evolutionary processes of Nature, and who believe in a God and in man's responsibility as a moral being, have felt myself constrained to speak humbly and with bated breath in presence of contemptuous science. Is there any man living who at the present hour would be prepared to deny that the star of Newton has paled before the superior brightness of that of Darwin, and that the intellectual greatness of such men as Bacon and Leibnitz has, in comparison with his, suffered disastrous eclipse? But in all humility I take the liberty of reserving my own opinion upon such matters.

If I am asked how, with all his gifts as a Nature specialist, and all his shrewdness as a close observer,

Darwin so signally failed to discover Nature's evolutionary method, I must express my opinion that it was due to the fact that he was not eminently endowed with true insight, and therefore deserted the legitimate paths of scientific inquiry, and that, ignoring the results of observation and experience, he trusted to his imaginative or intuitional faculty to furnish him with hypothetical explanations of Nature's developmental action. His theory was no sooner conceived than it took possession of his enthusiastic mind, and dominated his whole being, so that henceforth he interpreted Nature and her phenomena as seen through the medium of Natural Selection. It was no proof of intelligence or of insight that when he was casting about to find a satisfactory starting-point for a theory explanatory of Nature's evolutionary action, and when in the course of his search he happened to read the *Essay of Malthus on Population*, he at once adopted its conclusions, extending them from human life to the whole world of organic existence, including both the animal and vegetable kingdoms. It did not occur to him to reject the principle of Malthus as inconsistent with the concept of a moral and beneficent Deity. On the contrary, it recommended itself to his mind on that account. The day has not yet come, which I am assured shall come, when science will make the discovery that the farther it departs from the conception of a moral order pervading and informing the universe, and from the acknowledgment of a Creative Mind supreme in beneficence as in power, the farther

it will plunge into bogs, morasses, and quicksands of error. This evil destiny waited upon our naturalist, as it has befallen all who have disowned allegiance to a Divine Power to worship at the shrine of Charles Darwin.

There is a coterie of such men, not in my opinion very noble, who have drawn their inspiration from him whom they consider to be an infallible fountain of truth, and who, regarding all religious beliefs and forms of worship as a personal offence to the memory of their great master, have banded themselves together to grapple with superstition and all its noxious brood.

Their mission is, by the dissemination of suitable publications, to emancipate the human mind from beliefs which they consider to be degrading to it: such as, that there is a God to whom the universe owes its material laws, and to whose established moral order man is spiritually subject; that man is in some degree better than a beast; that there is a hope for him beyond the grave; that conscience and the concepts of duty, truth, and righteousness testify of his spiritual nature being derived from, and responsible to, a Divine Lawgiver. Conscience, Duty, Truth, Righteousness. The more respectable Darwinians acknowledge that Nature has wrought the sense of these things into the being of man, to the end that they should induce him to subordinate his purely selfish interests to the interests of society. His altruistic actions are thus furnished with what they term a *supra-rational* sanction, or a sanction divorced from reason and reality.

Thus to this sect of Darwin's followers, man, giving in his moral being allegiance to an imaginary infinite intelligence, is a mere cellular aggregate, cunningly constructed by Nature to believe what is not, to be the dupe of inwoven falsehoods, and—amazing thought—to be raised in the scale of creation by becoming the victim of Nature's mendacity. For my part, I am content to believe that life is earnest, life is real ; that an all-important reality is at the back of conscience and of man's sense of duty, truth, and righteousness, and provides them with a rational sanction. The position of the sect of which I have spoken is, however, in reference to Darwin's theory, severely logical.

There can be no half-way resting-place between it and the belief that man's moral nature has a substantial basis in the spiritual realities of the universe. Darwin having no belief in the spiritual world or in the Divine origin of the laws of Nature, was prepared, upon reading Malthus, to extend his doctrine of misery to all living creatures, and to make it the foundation of his evolutionary system.

BOOK II.



CHAPTER I.

THE MALTHUSIAN THEORY.

IT is fully more than a quarter of a century since I first read the Essay on Population by Malthus. I had long been an assiduous reader of history, and, as a subsidiary branch of historical information, I had studied with interest the past and present condition of countries that had once been great, or the theatres of great events, as well as the economic conditions of those peoples that had no long historical past, but were become important political factors at the present day. Such studies naturally bred an interest in the social questions that were agitating the different countries of Christendom, according to the measure of their civilisation, and directed my attention to the constituent elements of that civilisation which I saw advancing at a comparatively rapid pace, and raising the standard of living in every European country.

I did not therefore read the Essay on Population as a tyro prepared "*jurare in verba magistri*," or, in other words, to accept uncritically what had become a conventional belief, even though that belief were now established as the basis of the universally accepted creed of science, the evolutionary theory of Darwin.

The impression produced upon me by the perusal of the Essay on Population was that the conclusions of Malthus were not borne out by the teaching of history in regard to past movements of population, and that they are contradicted by all the phenomena of the different movements of population in the nineteenth century, in regard to which we possess detailed information, not only in the returns of periodical censuses, but also in the Registrar's Annual Reports which record the vital statistics of each country.

I perceived that in every country the population of which was increasing from one decade to another, the standard of living was steadily rising; and that the degree of the growing prosperity of each country was indicated by the rate of its numerical growth. This was clearly at variance with the essential principles of Malthus.

Malthus compared the potential increase of population with the potential increase of food obtained from the produce of the soil, and enunciated the famous formula, that whereas the food production of the soil cannot, even under the most favourable circumstances, be supposed to increase in successive generations in more than an arithmetical ratio, or as 1, 2, 3, 4, 5, 6, population is able to increase in successive generations in a geometrical ratio, or as 1, 2, 4, 8, 16, 32, doubling itself in the course of each generation. Hence he deduced the general conclusion that population tends to increase faster than the food supply.

When Malthus wrote, no country, except when its crops failed, imported food from abroad to any large extent, so that each country was in respect of its food supply dependent on its own soil. But matters have greatly changed since his Essay was published. The proportion of food for the support of the inhabitants of Great Britain that is imported from abroad is greatly in excess of what the soil of this island could produce. But so long as this country is from generation to generation multiplying her power of purchasing from abroad by the wealth derived from commercial and industrial enterprise, so long will the relative increases of her population and of the food which her soil can produce be immaterial to her.

But should a day ever come in the history of mankind, and such a day is drawing on and must come, when every country will be peopled to the extent in which the soil can support its numbers, then shall the principle of Malthus, if it contain an active germ of truth, work unutterable woe and havoc.

In my next chapter, devoted to an exposition of the law of population, I shall make it evident that from the nature of man and the necessities of his existence population cannot increase, unless its increase be preceded by, or accompanied with, an equal or greater increase in the amount of sustenance; and that, therefore, population does not tend, and cannot possibly tend, to increase faster than the means of subsistence.

Dealing in the present chapter with the Malthusian

concept that such is the inevitable tendency of population, I confine myself to the historical argument that it has never in any part of the world manifested this tendency, and that no country has experienced calamity or suffering from the increase of its population being greater than the increase of its food supply.

If one takes a map of the world and casts his eye upon the different quarters of the globe, he will find many regions which were once inhabited by great and prosperous nations, seats of empire, and centres of industry that are now abandoned to a scanty population of barbarians, when, indeed, they have not become the undisputed haunts of wild beasts.

Can it be alleged in regard to the decay and downfall of any of the old civilisations, that they had their origin in the tendency of population to outstrip the growth of the means of subsistence?

Foreign conquest entailed the ruin of one civilisation, internal insurrections or tyrannous misrule the decadence of another.

In every case the means of subsistence were curtailed or destroyed by the rapid decline and ruin of the various industries from which the people drew their livelihood. These industries perished in the insecurity which had fallen upon the right of property, in the deprivation of the freedom of individual action, in the plunder and spoliation of the wealth that had heretofore maintained them.

The sapping of the springs of industry by such

causes, or from commerce leaving its old seats for new, is the sole depopulating agent that has been known in the history of mankind, unless we except the case of certain savage races destined to die out when the white man comes into their territories, and interferes with their ancestral manner of living.

Wars, famines, and pestilences have been great scourges and destroyers of human life in the past, but their depopulating effects were temporary, and the gaps made by them in population were rapidly filled up. Misgovernment, oppression by conquering races, tyrannical interference with the rights and security of property and of individual action, whether the result of foreign conquest or of internal maladministration, have been the principal causes of the decline and fall of empires and of the seats of industrial populations.

Sicily in the best days of the Roman Republic was a granary of Rome, abounding in great cities flourishing by their industries, and filled with every kind of material wealth. The speeches of Cicero against Verres detail the frightful effects of misrule and oppression upon such a land, and show us how a few years of a tyrannical governor plundering gathered wealth and destroying the springs of industry and commerce may dispeople a country and render it, comparatively speaking, a desert. The same orator tells us of similar misgovernment in other parts of the empire followed by similar effects. Greedy pro-consuls and procurators, eager to return to Rome

with their unholy millions of money, and their art treasures stolen from temples, fanes, and private dwellings, harried the provinces subject to them, so that the opulent provincials were reduced to beggary, while the industrial classes were harassed with exactions and confiscations, and the agricultural population had the food necessary for the support of their families snatched from their hands. But nowhere does Cicero, or any classical writer, speak of overpopulation causing misery or depreciation of the standard of living. In the communities of ancient Greece, where there existed a continuous struggle between obligarchic and democratic factions, it sometimes happened that the dominant political party of a State sent out numbers of its partisans to found new settlements or to secure their hold upon existing colonies. But no Grecian colony of which we have any knowledge was founded from the necessity that pressed upon the parent State of getting relief from the burden of a surplus population.

We have no reason to believe that the migratory movements of population in ancient times, whether having their origin in political or commercial reasons, as in the planting of Greek colonies along the Euxine, in Italy, and elsewhere, or manifested in the barbarian inundations that overwhelmed the Roman Empire, were, in any instance, due to the pressure of an exuberant home population.

The latter migrations are to be attributed to the spirit of adventure and the joy of battle animating

the youths of warlike races, to whom had come the knowledge that regions more fertile than their own wintry climes and dark forests, regions inhabited by peoples devoted to peaceful occupations, and enriched by the accumulated fruits of industry and commerce, lay before them as a spoil of conquest.

Historians, it is true, have spoken of the teeming forests of Germany and Scandinavia pouring forth their superabundant surplus populations to occupy and possess new lands. But in the range of their historical information they are unable to point to a single country or district which at any time suffered from the existence of a surplus population—a Malthusian expression for what has never existed as a result of the relative difference in the rates of increase of population and the means of subsistence. Experience and observation abundantly testify that where population has increased, the means of living have increased in an equal degree, and in almost every case in a much greater degree. That this must necessarily be the case will be clearly demonstrated when I expound the universal law which governs the movements of population.

I shall now deal with the cases of Ireland and India, which Malthusians have founded upon as supporting the dogma that population tends to increase faster than the means of subsistence, and I shall show that these cases, when duly examined, exemplify my contention. They regard the rapid increase of the population of Ireland between 1690

and 1846, and the poverty of the Irish people at the close of this period, as due to the action of the principle of Malthus; but a knowledge of the facts of the case would show that the truth lies in the contrary direction.

In the course of a century and a half the numerical growth of the Irish people far surpassed the growth of any nation in the Old World in a similar period of time. In 1846 the population of Ireland had grown to be not less than eightfold the population in 1690; but an abundance of data can be adduced to prove that in 1846 the people were greatly better off than they were in 1690, or, indeed, at any previous period of Irish history. In 1690 the brief dream of Celtic independence and predominance was for ever dispelled, and the serf was returned to his serfdom, his hovel, his bog and his potato patch, and the hand of his Saxon master pressed cruelly and heavily upon him. But the establishment of a settled peace led to the resumption of agricultural industry.

The history of the 150 years that followed is always a distressful one, and is marked by agrarian outrages and disturbances. But the people began to multiply, and continued to multiply, in an unexampled manner. At the beginning of the period Ireland was for the most part a waste, uncultivated, unutilised land. But as the result of the settled peace, room was being continuously made for a greater number of inhabitants by reclamation of new soil from the waste, and the extension of cultivation.

At first Ireland was mainly a pastoral country, but in the course of the eighteenth century the great natural fertility of the soil was, we might almost say, discovered, and the people increasingly applied themselves to tillage. It is well known that a productive soil under tillage will support a far larger number of people than the same soil under pasture. Consequently the means of living were being largely added to from generation to generation, both by the never-ceasing accretions that were being made to the area of cultivation, and by the increasing diversion of the land from pasture to tillage.

Another thing that favoured the numerical growth of the Irish people was the fact that the potato formed their staple food; for before the deterioration of the tuber which followed the great blight of 1846, it was estimated that the yield of an acre of potatoes gave more than twice the amount of nourishment for man that was given by the yield of any other crop. In the generation that preceded the great blight which affected the potato, and the ensuing terrible famine that fell upon the people, and the subsequent depopulation by the agency of emigration, innumerable pamphlets appeared both in Ireland and in England dealing with the condition of the Irish people. The inciting cause of their appearance was the agrarian outrages committed by Captain Rock—the name assumed by the organised bands which signalised their track by arson and murder, and differed in name only from their predecessors, the Whiteboys and the Molly

Maguires. Many of these pamphlets were devoted to the woes of the tenantry, and were diatribes directed against the landlord-and-middleman system, which was in truth a very bad one. Others, again, were written by indignant Protestants, who ascribed the miseries of Ireland to the early age at which the peasantry married, and denounced the priesthood for their alleged encouragement of early marriages for the sake of the fees. But the most intelligent and well informed of the pamphleteers, while not denying the evils of the landlord-and-middleman system, pointed to the fact that the standard of living of the peasantry had risen greatly and was still visibly rising. As evidences of improvement, they directed attention to the superior clothing of the peasantry, male and female, that was everywhere witnessed at chapel and market, and to many other signs that indicated a greater ease of living.

There is no doubt, however, that the population of Ireland was superabundant, in the sense that the land could not support it except in a regrettable poverty. But poverty is the lot of almost all agricultural countries. On the Continent of Europe, from the Atlantic Ocean to the Ural Mountains, the tillers of the soil are bound to a hard struggle to wrest subsistence from the land, and only live by the exercise of an extreme penuriousness. Yet everywhere, at the present day, they are better off than their fathers and grandfathers were. An agricultural community is naturally averse from improvements, and reluctantly

admits them. The sons have no aspiration to live differently from their parents, or to rise above the style of living in which they have been reared. This was the case in Ireland. The majority of the agricultural tenants, when Arthur Young visited the island in the third quarter of the eighteenth century, farmed from five to ten acres, as their fathers and grandfathers had done. As the area under cultivation was extended, it was portioned out into farms of the same size, so that the young peasants had no difficulty in acquiring farms, and were thus enabled to marry at an early age. The superabundant population of Ireland, accordingly, was in no way due to the operation of the theory of Malthus. There took place in Ireland what almost invariably happens where population is increasing, an exemplification of the fact that the means of living tend to increase faster than population; for whereas in a century and a half the population had grown eightfold, the means of subsistence had grown from twelve to twentyfold.

Disciples of Malthus, and all who regard the theory of Malthus as the impregnable outwork of the doctrine of Natural Selection and its citadel of defence, speak of India as a striking exemplification of the evils wrought by a systematic attempt to thwart the operation of the checks by which, according to Malthus, Nature prevents over-population. They lament the mischief inflicted upon India by the benevolent purpose of the British régime—first, in attempting by sanitary measures to mitigate and lessen the

mortality from the ravages of smallpox, cholera, and the plague; second, by its compulsory prevention of the depopulating effects of intertribal wars; third, by its stamping out of such customs as Suttee, Thuggism, and infanticide.

The indictment is that the British Raj has prevented the due working of the checks which Nature has ordained for the keeping down of the population of India, and that, accordingly, in the course of a century the population has grown from 150 millions to 300 millions.

This indictment is true in so far as regards the action of the British Raj in diminishing the mortality at various points, and again as regards its efficacy in doubling the population of India.

The pax Britannica has given security to the gains of agricultural and mechanical industries. The resources of our great dependency have been enormously developed and increased by the creation of the various railway systems which still continue to extend their network in all directions, by canals, and not least by the vast irrigation works which fertilise districts that were before comparatively uncultivated, and also secure large and populous districts from seasons of desolating drought which were formerly only too frequent.

The testimony of all intelligent and careful observers who have spent many years in India and have studied native life and customs, is uniformly to the effect that the people are now in the enjoyment of a standard of

comfort which has risen greatly within their experience, and is much higher than ever before existed. If the British Raj has diminished in many cases the splendour and sumptuousness of the native palaces and courts, it has brought increased abundance of means into the houses of the people. The greater ease of living is shown in the improved quality of their clothing, of their domestic furnishings, and of every necessary article of daily use.

If under the shelter of the pax Britannica the population of India has doubled in the course of a century, its wealth has increased not less than three-fold. The people of India are from our point of view very poor, and will always be very poor as long as the land maintains so large a population deriving its sustenance from the culture of the soil. But this does not in the slightest degree lend support to the Malthusian concept that population tends to grow faster than the means of subsistence; for all numerical increase in India has always been accompanied with a more than proportional increase of its food resources. We should bear in mind that poverty is a comparative term, and is defined by the relation of the individual to the actual necessities of life. Thus, the necessary expenditure upon food and clothing of a labouring man in the colder climate of England is much greater than that of a labouring man in India, whose family are clothed for far fewer pence in a year than the shillings required to clothe the meanest family in England; while a native will support himself, his wife,

and family for two weeks in more than the average comfort enjoyed by his countrymen, upon what is equivalent to a single day's wage of an English artisan. The legendary opulence of the gorgeous East, which so long kindled the imagination of Western nations, was displayed chiefly in the courts of sovereigns, in the palaces of their great officers, provincial satraps, and territorial magnates, and in the bales of the merchants who ministered to their luxury. But beneath this splendour and ostentation of wealth lay the inconceivable misery and poverty of the oppressed millions, struggling to maintain a wretched existence upon the little that was left them of the produce which their labour extracted from the soil.

The immemorial condition of the cultivators of the soil throughout the world has been one of hard toil and squalid living. Philosophically considered, the agricultural life belongs to the lower stages of human development. Light, expansion, and human progress are the natural accompaniments of commerce which binds in an association of interests community to community and race to race. Commerce awakens the higher faculties of exploration and invention, produces wealth and luxury which, if they only knew it, is the most potent elevator of the working classes, and the handmaid of a rising civilisation and of a higher human life. In the beginnings of agriculture, which was the departure from the lower stage of human existence, the hunting life, a large area of

fertile land was required to maintain a single family. As experience led to the use of better implements and improved methods of culture, the yield of the soil was multiplied.

But the persistence of the agricultural mind in maintaining the same standard and style of living in which a man has been reared, made the greater yield tend not to the increase of individual wealth, but to its distribution among a greater number of cultivators. Farms became smaller in each generation, until the limit was reached when the farm could not be further diminished. Hence it has come to pass that the vast agricultural populations that swarm on the banks of the Ganges, and fill the Great Plain of China, though they till lands that are unsurpassed in fertility, are miserably poor.

As an increasing population is ever an indication that man is energising in a greater degree than he did before, the general result is that each generation surpasses its predecessor in the relation of the means of subsistence to the population. Thus we perceive how, while, under the *pax Britannica* of the last hundred years, the population has grown twofold, and the wealth and resources of India have grown in a much greater degree, yet, judged from our point of view, the people still remain very poor.

I come now to consider the second cardinal point of the theory of Malthus, his positive checks, which he assumes to be Nature's ordinance for preventing population from growing unduly.

I need not discuss here what he called the preventive or prudential check of moral restraint, which he considered to consist in a man's abstaining from marrying until he has attained to a reasonable prospect of maintaining a wife and family in the future; for Malthus expressly states that in the past history of the race he saw little trace of the action of such a check, and he had clearly no hope of its being efficacious in the future. Thus the cardinal principle upon which alone he relied for averting from mankind the curse of over-population was the operation of his positive checks.

In stating, and characterising, his positive checks, Malthus is delightfully frank. "The immediate check may be stated to consist in all those customs, and all those diseases which seem to be generated by a scarcity of the means of subsistence: and all those causes independent of this scarcity, whether of a moral or physical nature, which tend prematurely to weaken and destroy the human frame."

"The positive checks to population are extremely various, and include every cause, whether arising from vice or misery, which in any degree contributes to shorten the natural duration of human life. Under this head, therefore, may be enumerated all unwholesome occupations, severe labour and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of diseases and epidemics, wars, plague, and famine."

"On examining these obstacles to the increase of

population which I have classed under the heads of preventive and positive checks, it will appear that they are all resolvable into moral restraint, vice and misery."

That the reader may be convinced of the practical elimination by Malthus of moral restraint from his theory as an operative check, I quote part of his reply to Mr. Godwin, who dissented from his conclusions.

"Mr. Godwin says that if he looks into the past history of the world, he does not see that increasing population has been controlled and confined *by vice and misery alone. In this observation I cannot agree with him.* I believe Mr. Godwin would find it difficult to name any check which in past ages has contributed to keep down the population to the level of the means of subsistence that does not fairly come under some form of vice or misery; except, indeed, the check of moral restraint which I have already insisted on; and which, to say the truth, whatever hopes we may entertain of its prevalence in the future, has *undoubtedly in past ages operated with inconsiderable force.*"

Before demonstrating that the positive checks enumerated by Malthus do not act, and have never acted, as restraints upon the increase of population, and that there is an operative law or principle by which population is governed, and by which it is diminished, maintained *in statu quo*, or increased, altogether apart from the action of these so-called checks, I shall animadvert in a few words upon the moral aspects of this abominable doctrine.

It must be remembered that Darwin has incorporated this part of the Malthusian theory into his own, and extended its operation over the whole field of animated Nature, calling it the Struggle for Existence, the Survival of the Fittest, or more euphemistically still, Natural Selection. Malthus did not attempt by fine phrases to gloss over the horror of his theory. He did not possess the data (for none such existed in his day) necessary for determining the movements of population and their causes, which are now available to everyone. He had no means of ascertaining the relation that exists between the death-rate and the marriage-rate, which makes a high mortality in any community to be accompanied by a high birth-rate, and a low mortality by a low birth-rate. He perceived misery and miserable conditions of life everywhere, and causes inimical to human life, and he was satisfied that these explained how his assumed tendency of population to grow faster than the means of subsistence was prevented from over-peopling the globe. But how immoral is this theory !

The sense of its immorality was the first impression made upon thoughtful readers by the *Essay on Population* at the time when it was published, and it drew forth virulent attacks and denunciations from many and varied quarters. But the writers of these attacks could not, from the want of any certain data to go upon, prove that the theory propounded in the *Essay* was false, and accordingly

the public settled down to the belief that the theory, not being disproved, must be founded upon an irrefutable basis.

Macaulay voiced forth the general conviction of his contemporaries when he wrote, "The question is not, is the doctrine immoral, but is the doctrine true?"

It is an evidence of the materialistic tendencies of the times, as well as their punishment, that the public can be so influenced as to believe that a doctrine that is immoral can be true.

If it were indeed true doctrine that the miseries and evils that wait upon, or have found their way into, human life, form the ordinance of Nature by which alone mankind has in the past been preserved from the fell results of its tendency to increase numerically beyond the measure of its food supply, and to which we must mainly look in the future for such preservation, then would the lot of humanity be most deplorable, being deprived of all hope of a brighter and happier future.

If it were true doctrine, then the man who should endeavour to ameliorate the conditions of human life by arresting the progress of disease and pestilence, or by putting an end to the horrors of war, or by purifying the drains or cleansing the atmosphere in the great centres of population, or by engaging in the promotion of any form of sanitation, would be a traitor to humanity and a criminal of the deepest dye, in thus attempting to counteract and neutralise the beneficent and necessary ordinances of Nature.

The theory of Malthus has already wrought sufficient harm in the domain of practical legalisation ; for it is a matter of history that the younger Pitt had prepared a scheme to be submitted to Parliament similar to that of our present Poor Law system, and that he was dissuaded by the authority of Malthus from carrying out his intention, and induced to let the matter drop. Thus one of the most beneficent measures, in view of national well-being, was deferred through a long course of years by the influence of this wretched theory upon the mind of a great statesman.

Few people are aware to how great an extent throughout the civilised world the operation of what Malthus called the positive checks have been curtailed or wholly eliminated, and how great has been the consequent lengthening of the average life of man.

We have every reason to believe that in the sixteenth century the average length of life both in this country and on the continent of Europe was somewhere between twenty and twenty-five years.

In several of the provinces of European Russia it is to-day not a whit higher. There are few European countries in which the average life has not been doubled in the past century.

In some the life-term has been extended nearly in a threefold degree. In Sweden the average of life has, since Malthus wrote, been lengthened twofold, so that while in a given population two hundred people died annually a century ago, only one hundred die

to-day. Sweden has emerged from miserable conditions of human life, which, if they could be realised by the present inhabitants, would fill them with shuddering amazement, into a brightness, comfort, and ease of life, which its people would appreciate more highly if they could look into the pit from which they have been digged. And the same remark may be applied to all civilised countries, including our own.

The nineteenth century witnessed a marvellous advance in the forces of civilisation, the effect of which has been almost to transform the conditions of human life. In the general improvement thus brought about, nothing is more significant than the lengthening in every country of the average span of life. It tells not merely of the progress of sanitation, but, in as great a degree, of more comfortable homes, better food and clothing.

It is a prevailing idea that the increase in the length of the average life is due to the decline that has taken place in the mortality of infants and young children. But this is by no means the case. A study of vital statistics such as are now available in regard to all civilised countries for the last half-century, makes evident the fact that, while infant mortality fell greatly during that period, the mortality at all ages of life fell in almost as great a proportion.

The extirpation from Europe of pestilential visitations, one of the most active of Malthus' positive checks, has done much to reduce the mortality and lengthen the average life. Since the beginning of

the last quarter of the nineteenth century the Continent has been free from the ravages of such pests as cholera and epidemic typhus, except as mere local and confined outbreaks.

We have to go a long way farther back to mark the furrows made through the various populations by those once dreaded ploughs of ruin, the plague and smallpox. It is true that famines, and their invariable concomitant epidemic typhus, continue to scourge from time to time some of the provinces of Russia; but as the social conditions of that country become less Asiatic and more conformed to those of Europe, these pests will disappear.

Before the year 1875 the mortality columns in the Registrars' returns of all Continental countries bear witness to constantly recurring epidemical visitations. Seldom did a decade pass without one or two, whereby the decennial mortality was raised considerably above the normal mortality of non-pestilential years. Since 1875 the statistical columns of no country show the effects of any serious epidemical visitations, though I may remark that the mortality columns of almost all European countries were raised for some years in a rather marked degree by the semi-pestilential influenza which travelled across Europe about the year 1890.

I now submit a tabulated series of statistics which give for each country the average life of its people in the decenniums 1876-85, and also in the eight years 1896-1903, the latter year being the last which at the time of writing is available to me for reference.

This table will show how remarkable has been the prolongation of the average life-span in so brief a period ; when we take into consideration the fact that between the central points of the two periods not more than twenty years have elapsed, the result in some cases would appear almost incredible, if it were not beyond question attested.

Let it, however, be borne in mind that the period 1876-1903 was one in which all the forces of civilisation were acting with a higher degree of energy than in the former part of the century ; for these forces must be regarded as accumulating energy in their onward march. But the social significance of this table can scarcely be exaggerated ; for every year added to the average life means improved sanitation, greater comfort, and material well-being.

The difference between the average life-terms of the different countries will be a surprising revelation to many ; for not many, I presume, have made themselves acquainted with the fact that the average life of one European people exceeds that of another by more than a quarter of a century. I have arranged the columns for the two periods side by side—the first column below each period showing the average number of deaths annually in every 1000 persons, and the second column showing the average length of life calculated from the proportional mortality. The last column shows the prolongation of life in the period.

	1876-1885.		1896-1903.		Addition made to life- term 1880- 1900.
	Deaths per 1000 persons annually.	Average life- term 1876- 1885.	Deaths per 1000 persons annually.	Average life- term 1896- 1903.	
		yrs. days.		yrs. days.	Yrs. days.
England . . .	20·1	49 274	17·1	58 175	8 266
Scotland . . .	20·1	49 274	17·6	56 299	7 25
Ireland * . . .	...	...	18·1	55 91	...
Denmark . . .	18·9	52 332	16·4	60 35	7 68
Norway . . .	16·7	59 321	15·3	65 131	5 176
Sweden . . .	17·9	55 316	15·9	62 326	7 10
Austria . . .	30·37	32 338	25·2	39 172	6 199
Hungary . . .	34·6	28 329	27·1	36 329	8 ...
Switzerland . . .	22·3	44 308	17·9	55 316	11 8
German Empire . . .	25·9	38 222	20·9	47 309	9 87
Prussia . . .	25·4	39 94	20·5	48 285	9 191
Netherlands . . .	22·2	45 16	17·8	56 65	11 49
Belgium . . .	21·1	47 83	17·9	55 318	8 233
France . . .	22·3	44 308	20·2	49 184	4 241
Italy . . .	28·3	35 122	22·5	44 162	9 40

* Up-till the year 1880 the registration of Ireland was very defective.
I have accordingly abstained from comparing the two periods.

Half a century ago, in the decade 1851-60, the average annual mortality of England per 1000 persons was 22·4, giving an average life of 44 years and 259 days. But so much more favourable have the conditions of life become, that the average life of the people of England has been lengthened in the course of the half-century by 13 years and 281 days.

If we possessed the mortality returns of the first decade of the nineteenth century, they would in all likelihood show that the present average life of the

English people has been prolonged by fully twenty years, and that the average life in England one hundred years ago was midway between the present average life-spans of Austria and Hungary. These two countries have only recently begun to emerge from mediæval conditions; but it is pleasing to observe how rapid is the progress that is being made by them. In the decade 1866-75 the average life in Hungary was only 25 years and 69 days. It has since risen to 36 years and 329 days, or by 11 years and 260 days. The reader may be interested in ascertaining to what extent the prolongation of human life has been affected by the reduction that has taken place in the mortality of infants and young children under five years of age. The following table relating to England and Wales shows, first, the average annual number of deaths in 100,000 children under five years of age in each decade since 1856; and, second, the proportional mortality of the kingdom in 100,000 individuals.

	Deaths per 100,000 children under five years of age, per year.	Deaths per 100,000 persons in England and Wales, per year.	Average term of life in each decade.	
			Years.	Days.
1856-1865 . .	6821	2219	45	24
1866-1875 . .	6651	2219	45	24
1876-1885 . .	5926	2010	49	274
1886-1895 . .	5739	1881	53	70
1896-1903 . .	5490	1710	58	175

In the half-century the decline in the mortality of children under five years of age has amounted to 19·2 per cent., while the decline in the general mortality of the country has amounted to 28·7 per cent. It thus appears that the decline in the mortality of infants and children under five years of age has been far from keeping pace with the decline which has taken place in the general mortality of the kingdom. Almost all European countries show in a similar manner that their constantly diminishing death-rates are in no degree attributable to the reduction of their infant mortalities.

Of all the countries given in the first table, Hungary approximates most nearly to mediæval conditions, as shown by its heavy bill of general mortality, and, in a greater degree, by its infant mortality, while in the lowness of both its general and infant mortalities Norway carries off the palm from the rest of Europe. In either country I am able to refer only to the death-rates of children under one year.

Looking to the rapid progress of the forces of civilisation in Europe, and to their action in promoting the betterment and material well-being of all peoples, I do not doubt that, before the present century has run its course, both the general mortality and the infant mortality of Hungary will have been lowered to those existing in Norway at the present day. To achieve this result, the present life-term of the Hungarian people must be raised by 80 per cent., and their present rate of infant mortality must be

lowered by 136 per cent. But the infant mortality of Hungary amounts to less than a fourth part of the general mortality, so that when its average life-term has reached a point 80 per cent. higher than it is at present, this result will not to a material extent have been caused by the fact that the infant mortality has declined by 136 per cent.

It is therefore pretty much a delusive belief that so generally prevails, that the decline in the mortality of infants and young children has been the dominating factor in prolonging the average span of human life. The conditions of Mediæval Europe were so evil and insanitary, that people died at all ages very much faster than they do now, and very few attained to what is to-day considered as old age. Anyone who will take the trouble to ascertain, where it is possible to do so, the ages at death of the men who attained to any kind of eminence or notoriety before the end of the sixteenth century, will discover that their average age was much below the average age attained by notable and eminent men during the last century. There can exist no doubt that, from the constantly recurring pestilences, as well as from prevailing insanitary conditions at all times, the adult mortality of Mediæval Europe was much in excess of what can now be found anywhere on the Continent, except it be in the most backward, unwholesome, and insanitary parts of Russia.

But though this must have been the case, yet in relation to the general mortality the mortality of

infants must have been proportionally much greater than at the present day.

Nevertheless, as will become evident when the laws that govern the movement of population are understood, the large death-rate in no way acted to keep down or decrease the population of any country, inasmuch as its resultant action was simply to increase the number of marriages and to raise the birth-rate in a sufficient degree to satisfy all the needs of the existing labour market.

I shall now devote a brief consideration to the registered death-rates of the Australasian colonies, British communities whose existence is of comparatively recent date, which have sprung up under conditions of soil and climate favourable to health and longevity, and which have been guided to their present social well-being by their inheritance of the highest existing civilisation.

These colonies are destined to be great and powerful nations, more fortunate than the Mother Country in this respect, that they will not be, as she is now, burdened with many deep-rooted and festering social evils, the result of ages of barbaric neglect and ignorance of man's duty to man.

In the following table I give the average annual death-rates in 1000 of population with the average life-term in each of the decades 1884-93 and 1894-1903. Their mortalities, as we might expect, are considerably below those that prevail in European countries.

		Death-rate per 1000 persons.	Years. Days.	
New South Wales	{ 1884-1893	14.1	70	336
	{ 1894-1903	11.85	84	123
Victoria . . .	{ 1884-1893	15.4	64	343
	{ 1894-1903	13.4	74	228
Queensland . .	{ 1884-1893	15.7	63	225
	{ 1894-1903	12.0	83	121
South Australia .	{ 1884-1893	13.0	76	252
	{ 1894-1903	11.6	86	75
Western Australia .	{ 1884-1893	16.9	59	62
	{ 1894-1903	14.7	68	10
Tasmania . . .	{ 1884-1893	15.0	66	233
	{ 1894-1903	11.6	86	75
New Zealand . .	{ 1884-1893	10.0	100	...
	{ 1894-1903	9.8	102	15

The low death-rates as registered in most of the above colonies cannot fail to be observed with amazement, if not with suspicion. Especially is this the case in regard to New Zealand.

My first feeling upon noting them was one of utter incredulity, and for a time the only explanation that occurred to me was that the registration was in a very defective state. But further consideration supplied me with another and more satisfactory explanation.

In European countries the proportion of deaths to the population may be accepted as correctly indicating the average duration of life, for it is not materially affected by the amount of emigration or immigration that takes place; but the case is otherwise with the sparsely peopled colonies of Australasia. New Zealand receives every year from the Mother Country and from Australia a considerable influx of

young and vigorous settlers, while many elderly people leave the colony to return to old and cherished associations, and to spend their declining years in the Mother Country.

Thus the number of deaths that take place in New Zealand does not, by their proportion to the existing population, give anything like an accurate idea of the average duration of human life in New Zealand. By adventitious circumstances the proportion of deaths to the population is rendered smaller than would be the case if the conditions were normal. But there is also another and contributory cause of the abnormal relation existing between the given death-rate and the population. When we consider that a population numbering not much more than 800,000 souls occupy a country almost as large as the United Kingdom, and that not much more than a third part of it are gathered into towns, there must be a considerable number of people living on solitary farms, or small hamlets in outlying districts, beyond the ken of registrars, many of whom are likely to omit registering deaths that occur in their households, though they may be careful in seeing to the registration of births and marriages.

It is not, in my opinion, reasonable to believe that, in the present state of the world, even under the most favourable conditions, the average duration of life in any community exceeds seventy-five years. That is the extreme limit I should be disposed to accept as possible, though even then my acceptance would be accompanied with suspicion.

From the registration of their mortalities, however defective we may suppose them to be, by the different Australasian colonies, one clear outstanding fact emerges, viz. that their populations are not kept down or restrained in their increase by all those causes "which tend prematurely to weaken and destroy the human frame." Even in Europe the checks of Malthus have since his day undergone an elimination, and where not an elimination a loss of energy, that consigns the conception of them as Nature's ordinance for keeping down, and within due limits, the population of the globe, to the limbo of baseless and mistaken theories. In the next chapter I shall state and elucidate the universal law that governs every movement of population, whether of retardation or of progression.

CHAPTER II.

THE LAW OF POPULATION.

THE exposition of the law that governs and controls the movement of population is neither involved in intricacy nor is it of an abstruse character. The general movement of population is determined directly by the ability of the individuals of a community to marry; and this ability again depends upon the state of the labour market.

When the labour market is expanding from year to year, more people are enabled to marry than would be the case if the labour market were stagnant and remaining stationary.

Where stagnation of the labour market exists, the number of labourers remains at the same point, and young men can be placed in positions that enable them to marry only by entering into posts of employment that have been rendered vacant by the death of those who formerly held them. Experience teaches that in those circumstances the population does not increase, the birth-rate doing no more than keep pace with the death-rate.

On the other hand, where a community is prospering by commerce or manufacturing industry, new

posts of employment are being created which enable young men who enter into occupation of them to marry. It is to the creation of new posts that all the numerical increase of a community is due; so that the percentage of increase of its population in a decade measures the percentage of increase that has taken place in the number of posts of employment.

When, again, a community feels the pressure of adverse circumstances, and its sources of industry are being sapped by permanent causes, many posts of employment are rendered vacant by employers being unable to maintain them. The demand of the labour market is thus reduced, and year after year fewer labourers are employed. Accordingly the number of young men who are enabled to obtain employment by succeeding to posts rendered vacant by death tends to grow smaller, and thus the marrying power of a community is curtailed, so that the birth-rate falls below the death-rate, and the population dwindles. The standard of living in such cases tends to deteriorate, as employers are no longer able to give the wages that were given in more prosperous times, while labourers compete with each other to obtain employment for such wages as employers can afford. Witness the comparative poverty and depopulation that has overtaken Venice, the once proud and opulent Queen of the Adriatic.

It is obvious that a man cannot enter into the married state unless he possesses means of subsistence that suffice for himself and a wife; and this subsist-

ence must come to him, in some form or other, from the labour market.

Many obtain their living and live luxuriously, without by their own labour being producers. Thus a man who inherits a great estate may entrust the management of it to an overseer, and be himself simply a recipient and spender of the rent. But as the mere possessor of the estate he occupies a very important post in the labour market; for the land which he owns supplies the means of living, to his tenants and their labourers, to himself, his servants and tradesmen.

Suppose, again, that a man has inherited a large fortune from his father; no part of his wealth is uselessly stored up in a cellar, or in a chest from which he takes out, as occasion requires, the expenses of his maintenance. His wealth is invested in money-making concerns, yielding his income by its employment. This means that it is promoting industrial and commercial enterprises, and providing the means of subsistence to a multitude of labourers. Even if we close our eyes to the fact of the wealthy man being in this way a promoter of productive industry, he cannot help affording the means of subsistence to a number of families in the mere spending of his income.

Apart from ancestral possession of lands, the large fortunes possessed by individuals in this country have been accumulated in the labour market, and, in the first place, they form reservoirs of capital for the promotion and maintenance of all sorts of industrial enterprises,

and, in the second place, by the incomes which they yield, they go to the distribution of wealth, more especially in expenditure upon the luxuries of life.

Wherever such fortunes exist, the condition of the labouring classes is raised in proportion to their number and size. They support the more highly paid forms of skilled labour, and certain kinds of industry specially created for the use and gratification of luxury. The wages thus accruing to highly skilled workmen and other ministers of luxury are again distributed in supporting ordinary tradesmen and labourers.

In the economy of our interdependent lives no man lives or can live for himself alone.

Accordingly, whoever is in possession of means that enable him to marry, from the king to the humblest cobbler, whether he obtains these means from the labour of his own hands or by the industry of others, may be said, in the sense in which I use the term, to occupy a post of employment that places marriage within his reach. Even the deleterious classes, such as professional thieves and burglars, must be placed in our category, though they are destroyers rather than producers of wealth; for if they marry, as some of them do, it is because they find their gains suffice for the married life. If there do now and again take place marriages which are not justified by those who marry seeing how to procure the means of providing for themselves, either in the present or in the future, these idiotic transactions are so rare as not to disturb

the general law, or interfere with the general result ; just as the occurrence of sports in botanical species does not divert the botanist from insisting upon the general laws and specific characters of the plants.

What is a sufficient means of subsistence for entering into the married state is a question determined by a man's place in the graduated scale of social life. A man occupying a high round of the social ladder would not consider himself justified in marrying, though possessed of means which if divided would enable a dozen men on a lower round of the ladder to marry in what they would consider great comfort.

The law is that a man does not marry until he sees himself in possession of means that will enable him in his degree to marry. This law must not be confounded with Malthus' check of moral restraint ; for the restraint which it imposes is rather of a physical than a moral barrier.

It forms a universal factor in determining the movement of population, and has been operative at its fullest energy everywhere since man entered into and recognised the social bond. It is a law that must be obeyed, to whose dictates the non-moral as well as the moral must conform.

Malthus, however, not perceiving the operation of this law, which is manifoldly visible to any present-day student of the statistical information supplied by the bureaux of Christendom, entertained the belief that the majority of the marriages which took place were unaccompanied with due reflection on

the part of those marrying as to whether they had a reasonable prospect of being able to maintain a wife and family in the future. Accordingly he held that the neglect of this check of moral restraint, which he made to consist in a man's abstaining from marrying until he has satisfied himself that he has a reasonable prospect of maintaining a wife and family in the future, was the main cause of the tendency to over-population, which called for the action of his positive checks to overcome it: for, as he said, "Moral restraint, whatever hopes we may entertain of its action in the future, has acted in the past history of the race with inconsiderable force."

Let us see how the case really stands. The young working man, who is in receipt of a daily wage, which he considers to be, in the case of his fellow-workmen, sufficient to maintain a wife and family, marries in the confidence that his health will be preserved to him in the coming years, and that the daily wage will not fail him in those years. This confidence forms the principal asset of his estate, which he takes into account when he forms the marriage tie. But no man can foresee what the morrow will bring forth as to his health or his life. The young working man, therefore, has no certainty that his health will not fail him, or that he will not leave a wife and young children destitute. But if the thought of this possibility acted upon him as a deterrent from marrying, he would never marry. Yet he considers himself justified, when contemplating marriage, in entertaining a confident hope that his health and life will be preserved until his children

have grown up and are able to earn their own living ; and the general experience of the race shows that he is justified in entertaining such a hope. But the working man, justified in the light of the general experience in cherishing this confidence, is nevertheless incapable of the madness of contemplating immediate marriage unless he is in receipt of a daily wage, and has also a reasonable prospect of continuing to earn it.

The labour market is supplied by a continuous accession of young men occupying posts that death has rendered vacant, or that have been vacated by men who have retired from them on account of age, or for other reasons, or by men who have emigrated and left the country. In addition to those young men who occupy vacated posts, there is no lack of young men to enter upon such posts as are created by the expansion of commerce and industry.

In the wider arena of the labour market, the same principle prevails that we see operative in a large commercial firm where promotion from one post to another goes by seniority. A high official in the service of the firm dies or retires, and the post he held is occupied by the holder of the post immediately below it. The post thus vacated is at once filled up by the advancement to it of the holder of the post next in the order of succession ; and the process of juniors being raised to fill the posts vacated by seniors is continued, until the lowest position which enables its occupant to marry is reached. This also being rendered vacant by the promotion of him who occupied it requires

in its turn to be filled, and its new occupant is placed for the first time in a position that enables him to marry.

As a general rule, new-comers in the labour market begin by filling the lowest posts of employment, both when old posts have been rendered vacant by death, and when new posts are created as industrial or commercial enterprise is extended.

The majority of young men marry as soon as they are in a position which enables them to do so. But it generally happens that their marriage is deferred for some time after they enter upon the posts which confer upon them the power to marry, owing to the necessity of saving up for house furniture and wedding expenses. The first three years after they enter upon such a post are those which witness the greater number of their marriages. This fact is revealed to the statistical expert by the marriage returns of the years which follow the breaking out of a devastating pestilence or the close of a sanguinary war.

In the year 1866 the mortality of Austria was raised to a great height by a visitation of cholera and by war with Prussia.

From an annual average of 295 deaths per 10,000 of population in the preceding decade, the mortality in the above year rose to 409 per 10,000. The full tale of deaths above the normal amount was 230,000. Owing to the large number of posts of employment emptied by the pestilence and the war, and to their being straightway filled up by young men, the marriages in the following four years rose from an annual

average of 825 per 100,000 of population to an annual average of 975 ; and the largest number of marriages fell in the third year from the pestilence, and amounted to 1035 per 100,000 of population.

Many men defer marrying for several years after they are in possession of the means of doing so, and a few never marry at all.

But as the principles of human action, especially in regard to marrying, are pretty much the same everywhere, the law of averages prevails, and the result is the established ratio between the number of marriages and births and the number of deaths in a community.

Some populationists seriously treat, as if they affected the general movement of population, several questions which do not in any degree affect it, and of which the importance and interest are wholly of a social nature. Such questions are the proportion of illegitimate to legitimate births, the relative fecundity of the marriages of different countries, and the marrying ages of the different classes of a community.

The number of illegitimate births in a community, as it is large or small, lessens in its degree the number of marriages. Thus in Vienna, where the proportion of illegitimate to legitimate births is excessive, the marriage-rate is excessively low. But the labour market is not thereby affected, as illegitimate children enter it in the same proportion as legitimate children, and it is found that the birth-rate holds the same proportion to the death-rate that it would do if all

the births were legitimate. From the moralist's point of view, the situation is a very sad one, but the interest attaching to it belongs purely to the question of social morality.

In a country where the fecundity of the average marriage is greater, the marriage-rate is lower than in a country where the fecundity of the average marriage is smaller, supposing the demand of the labour market to be the same in both countries.

In comparing the fruitfulness of English and Scotch marriages, I have embraced a period of 33 years, viz. from 1871 to 1903, a period sufficiently long to bring the fluctuating results of the different years to a general level or average.

In those 33 years the average number of births annually in 10,000 persons was in England 320, and in Scotland 322, showing an inappreciable difference. But this equality in the number of births is surprising when we perceive that throughout the period the number of marriages per 10,000 persons annually amounted in England to 78, and in Scotland to 70 only.

In order, however, to ascertain the relative production of English and Scotch marriages, we must take into account the relative illegitimacy of the two countries. In Scotland the illegitimate births averaged during the period 8 per cent. of the total births, while in England they averaged only 4·5 per cent.

Deducting from the sum of births the number of illegitimates, we find that 78 English

marriages produced 306 children, while 70 Scotch marriages produced 296 children. The resulting difference in the fecundity of the marriages of the two countries is that while in Scotland 100 marriages yield 423 children, the same number of marriages in England yields only 392, or 7·4 per cent. fewer.

The labour market of the two countries called for an equal birth-rate. An equal birth-rate was accordingly obtained.

Thus neither the fact that the illegitimacy of Scotland was so much higher than that of England, nor the fact that the fecundity of Scotch marriages so much exceeded that of English marriages, was a factor that directly affected the supply of the labour market; for, had the relations of the two countries in both these respects been very different, while their respective labour markets called for an equal supply of labour, that equal supply would have been obtained by means of an equal birth-rate.

The ages at which the different classes of a community enter into the marriage bond do not in any way call for the attention or consideration of the populationist, except in so far as they go to prove the general rule that men marry as soon as they are able to do so. Men who earn their subsistence by the labour of their hands are able to marry at an early age, while, generally speaking, men who earn their living by their brains, or who require to establish a position for themselves, are constrained to defer their marriages to a later period of life.

In his *Social Evolution*, Appendix I., Mr. Kidd, who, whenever he treats of population, shows himself unacquainted with its governing principles, has nevertheless a useful table referring to England, which shows the proportional number of marriages made at various ages by different classes, from which I have drawn up the following table.

Out of every 1000 males of each class who marry, the proportional number marrying in each of three periods is given, as follows:—

	Miners.	Factory-hands.	Labourers.
Under 25 years . . .	704	702	576
Between 25 and 35 . .	275	263	365
From 35 years upward .	21	35	59

	Artisans.	Tailors and shoemakers.	Shopkeepers and shopmen.
Under 25 years . . .	598	649	467
Between 25 and 35 . .	351	308	451
From 35 years upward .	51	43	82

	Farmers and farmers' sons.	Commercial clerks.	Professional and independent class.
Under 25 years . . .	284	459	151
Between 25 and 35 . .	566	509	648
From 35 years upward .	150	32	201

In the remainder of this chapter I shall, in speaking of the labour market, exclude from it wholly the independent classes who are not under the necessity of earning their own living. They form so small a part of any community that they may be left out of account in dealing with the movement of its population.

From the general observations which I have made up to this point, based none of them upon any theory, but all of them careful inductions from data both well attested and sufficient, the reader will perceive that I regard the labour market as the hinge upon which every movement of population turns.

No individual can marry unless he enters that market, and is enabled to earn in it what in his degree will suffice for the maintenance of a wife and prospective children.

The labour market provides the whole means of subsistence of a community. The posts of employment which can be found in it are strictly limited by its demand for labour. It does not want more than a certain quantity of labour, and to the supply of that quantity its power of employing labour is rigidly confined.

If the labour market of any community is not expanding, the normal demand for labour necessarily remains at the same point, the number of posts of employment undergoes no increase, and consequently no young man can enter into a position that enables him to marry until such a position has been vacated by the death of its former occupier.

The limitation thus placed upon the power of forming marriages prevents the growth of what is called a surplus population: for where the demand for labour is not increasing, but remains *in statu quo ante*, inasmuch as no new posts of employment are being created, the population is found to remain without either material increase or decrease.

But in such a community there may arise an abnormal demand for labourers to occupy posts that have been vacated by death. A desolating pestilence may sweep away its thousands or hundreds of thousands, and empty in a single month a multitude of posts that but for its havoc would not have been emptied for many years. But the abnormal demand for labour thus created will without difficulty be supplied. There is always a sufficient reserve of young men to fill up the vacant posts. These young men are, earlier than they anticipated, called on to occupy them, and so placed in positions that enable them to marry sooner than they would otherwise have been. The fruit of the marriages thus formed will in a very few years raise the population to its former level; for the ravages of pestilence never act as more than the merest temporary check upon population.

Within living memory, the cholera, slaying its millions, swept away one-third of the inhabitants of Mysore in India, and within fifteen years the population of Mysore was, by the natural increase of its people, greater than it had been on the eve of the visitation of the terrible scourge.

Again, there may take place in an industrially stagnant community a large exodus of its people. We may suppose that there has come to it tidings of a field of emigration which opens up new prospects of betterment in a fertile country that is calling for a supply of labour to develop its resources.

The effect upon the community may be comparable to that which we have seen produced by the news of the discovery of a new goldfield. A strong tide of emigration sets in, which continues year after year to carry off numbers from the home population. The prosperity of the first emigrants in their adopted country acts as a continual stimulus to keep up the efflux of men, either single or with families, to a land which seems to promise them a sure improvement of the conditions of their life; while many are, further, incited to emigrate by the invitations and the pecuniary assistance that reach them from friends and kindred who have prospered in the new settlement.

Those, therefore, who leave the old home for a new country are not impelled to emigrate in consequence of impoverishment or distress, or from any inability to maintain the standard of living to which they have been accustomed, but solely from the desire which is natural to man of bettering his condition.

This is the *motif* of almost all the emigration which we have seen, now for some decades, setting forth from European countries, including our own, even though the labour market in those countries has been constantly expanding.

The bulk of the emigration from Ireland, especially during the last three decades of the nineteenth century, has been of a different nature, consisting of emigrants who have been compelled by distress to leave their native soil, owing to the enormous depreciation that has taken place in the pecuniary value of agricultural produce. The margin of profit from the cultivation of the smaller farms has been undergoing a process of reduction, until it is no longer sufficient to maintain a family even in the low standard of comfort that satisfies the wants of the Irish peasantry.

Therefore thousands of Irish families have been constrained to expatriate themselves every year, and seek the colonies that their countrymen have formed in the United States of America. The result of the large depletion that has taken place in agricultural Ireland has been a continuous redistribution of the soil so as to form larger farms; for it is obvious that as the holders of farms become fewer, the farms must become larger. It is thus a curious fact in regard to the movement of population that is taking place in Ireland, that the compulsory and therefore distressful removal of so large a number of people from the country is attended with a marked improvement in the standard of comfort of those who remain in it. If emigration had not been available to relieve the distress caused by the decline in the pecuniary value of the produce of the soil, the remedy for the distress of Ireland must have come, and would assuredly

have come, from a means of cure as effective, though more painful, viz. by a considerable reduction in the number of marriages. The marriage-rate of Ireland has since the year 1845, which was the first of the famine years, been greatly below that of any European country. Whereas in the years when Ireland was rapidly multiplying its population, its annual proportion of marriages in 10,000 persons must have amounted to from 100 to 120, the proportion from 1873 to 1883 was only 45; from 1883 to 1893, 44; from 1893 to 1903, 50. In England in the same periods the proportional numbers were respectively 79, 77, 78.

It must not be imagined that the reduction in the proportional amount of their marriages, from more than 100 marriages in 10,000 persons to 44, was due to a greater exercise of moral restraint on the part of the Irish people—a people generally supposed to be less liable to be swayed by prudential motives than most others. The influence of the labour market in determining the marrying power of a community is imperative and must be obeyed.

Reduced as the marrying power of the Irish people had become, yet, if the field of emigration had been closed to them in the fourth quarter of the nineteenth century, which witnessed the great fall in the prices of agricultural produce, their power to marry would have suffered a much more severe restriction.

The tenants of the smallest or poorest farms would first have become totally unable to marry, though

they might have a sufficient margin of profit to maintain themselves alone. Next, as the depreciation grew worse, the tenants of farms somewhat larger or less poor would have fallen under the ban of the law that prohibits marriage; and this process would have continued until a very large section of the peasantry were perforce constrained to remain single. As the farms fell vacant, they would not be taken or reoccupied, but would be distributed among neighbouring holdings. Thus, as marriages became fewer, the deaths would become more numerous than the births, and the population would decrease.

Nothing could have prevented this painful process from being experienced by the Irish people but the facilities for emigration that the present state of the world affords. It is not difficult to forecast that, ere the lapse of another century, the existing fields of emigration will be filled up and closed.

I now return to consider what would happen if, in a non-progressive and stagnating community, a large outflow of emigrants took place, and continued for many successive years. A multitude of existing posts of employment would be emptied, as in the case of a pestilence, and would at once be filled by young men, who would thus acquire the power of marrying at a much earlier period than they would have acquired it if no emigration had taken place. Accordingly, there would be an unwonted birth-rate for some years, which would quickly fill up the gap in the population caused by the emigration.

But if the annual efflux continued at the same amount, say, for some decades, then the high marriage-rate and the high birth-rate would also continue, and have the effect of maintaining the population at its normal numbers.

Thus the effect of a continued efflux would be the maintenance of the normal population by the production annually of a number of births equal to the number of individuals who annually left the country.

Thus emigration, however large in amount, does not of itself tend to diminish the population of any community. The only cause of depopulation is a declining labour market. This has been the case in Ireland. Even the vast emigration of the last thirty years would not have had the effect of diminishing its population if the labour market of Ireland had remained *in statu quo ante*; and if the labour market had all the time been expanding, the emigration would not have prevented a commensurate growth of population.

The sole effect of the emigration would have been immensely to increase the number of marriages, until the marriage-rate rose to as great a height as, or even to a greater height than it attained in the closing decades of the eighteenth century.

The labour market will always insist on being fully supplied with the necessary labour whatever happens, and by its own action can and does effect this result.

If by an unexpected development of industry there is

created a great and sudden demand for a larger supply of labour, that demand will at once be responded to, owing to the reserve of young men that every community possesses. The extent of this reserve may be realised by those who take into consideration how Napoleon, during the last years of his sanguinary career, recruited his constantly depleted armies from the youthhood of France. The result is that the labour market is being constantly stocked with labour filling up its available posts of employment. It is within the memory of everyone how, at the close of the war in South Africa, the Volunteers, who had left their employments at home to serve for a year or two their country abroad, experienced, upon their return, great difficulty in obtaining similar posts to those they had left; and how, notwithstanding all the efforts that were made in various quarters to procure for them suitable situations, many had for a long time a weary waiting.

It were a comparatively easy matter to take a multitude of men out of posts in the labour market, for their posts would at once be filled; but it would be next to impossible to repon them in similar posts after the lapse of a short time. More than a million of emigrants have left the shores of England during the last ten years. Let anyone strive to imagine what would happen if, after the lapse of a few years, half of those who emigrated returned to seek in the English labour market posts similar to those they had left. Some, no doubt, would succeed in obtaining

posts that younger men were ready to step into ; but the greater number would have to seek refuge in the army of tramps and beggars. The posts which the labour market of England contains at the present time are all filled, and no industry has been hampered, or has ceased to advance less rapidly, in consequence of the departure of emigrants from our shores, nor has any enterprise been thereby hindered from its due development. The conclusion is therefore inevitable, that England is not by a single family less populous to-day than she would have been if she had not sent forth the men who peopled the vast continents of North America and Australasia.

Imagine, if it be possible to imagine, what consequences would follow if Europe proceeded to a general disarmament, and suddenly discharged upon the already filled labour market the vast armies that are now maintained upon the peace-footing. This multitudinous host of men in the prime of life would be augmented by the workers who provide the soldiers with food, clothing, and all their personal equipment, and by those who make and furnish the munitions of war. The suffering and misery that would follow would be scarcely less terrible than would result from the conflagration of a universal war.

As a specimen of the wise-looking folly that obtains among a certain class of political economists, I give an extract from the article "Prussia," in the *National Encyclopedia* of the date 1872. The writer of the article says:—"Prussia had a first place for the

relative strength of her military force, with the resulting loss of some 90,000,000 of days of labour." He also says:—"The number of men on the peace-footing is 320,000." That number of men has been largely increased since the article was written, yet deleterious effects of the abstraction of their labour have been nowhere felt in any one branch of German trade or industry.

The amount of the labour which the writer imagined to have been lost to Prussia by the segregating of a certain part of her male population from the ranks of industry to discharge military service was fully supplied by younger men, who were by the removal of the others enabled to take their places in the labour market sooner than they would otherwise have done. Thus not one day's labour was lost to any department of industry. Indeed, a great many more days of labour were added in consequence of the absorption of the men into military service calling into requisition a number of workers to provision, clothe, and otherwise equip the standing army.

The population of Prussia within its present boundaries was in 1871, 24,673,000; in 1903 it amounted to 35,825,000, an increase of more than 45 per cent. in 32 years. This vast addition to her population has been summoned into being by the great extension of her labour market in every department of industry, and it has been accompanied by a far greater than proportional increase in the means of subsistence of the people overhead.

The next chapter will be devoted to providing a budget of statistical information with a view to illustrate more fully the active principles of population and to demonstrate by concrete examples how free they are from arbitrariness, and how subject to law.

CHAPTER III.

THE LAW OF POPULATION ILLUSTRATED.

IN dealing with population statistics, it is worse than useless to select facts here and there in order to prove a general law. Such a mode of proceeding has been one of the reasons that have brought into discredit the value of arguments founded upon the presentation of statistical facts.

The populationist must be able to show the action of his principles ruling through a period of successive years sufficiently long to allow the elevations and depressions of the individual years to subside into a general level, so that he may arrive at averages that are perfectly trustworthy. He is thus enabled to bring phenomena that are, at the first glance, apparently conflicting into a demonstrable harmony with the general principle which he is illustrating. In illustrating the general law of the movement of population, I for the most part confine myself to those European countries whose vital statistics for the period under review I consider deserving of full reliance.

I have, where it is possible, begun my tables with

the year 1864, so as to embrace a period of four decades. But in regard to some countries that has not been possible, as in certain cases the statistics accessible by me do not extend so far back, and in other cases have not attained to accuracy till later than 1864.

Even in regard to England, the desiderated accuracy is not attained till about the year 1850, while in regard to Scotland the year 1863 is the first which marks its attainment.

The vital statistics of Ireland only reach the desired point of accuracy in the year 1872, up to which year, indeed, reliability was not claimed for them. The system of registration in Ireland was not established by Act of Parliament till 1864.

But while the people are becoming familiarised with its operation, it is invariably the case that a system of registration does not produce accurate results until some years after its introduction.

During the first eight years in which the Act was in operation in Ireland, the reports of the Registrar-General gave the annual death-rate as 16·4 per 1000 of population, which would make the average life of the Irish people to have been at that time 60 years and 302 days.

But the sudden and thenceforward continued rise in the death-rate column of Irish vital statistics in the year 1872 signified the more stringent application of the Act, and accordingly a closer approximation to accuracy in the annual reports. Hence from 1872 to

1880 the registered average death-rate rose at a bound from 16·4 to 18·3 per 1000 persons, and reduced the life-term by more than six years, making it 54 years and 236 days.

It is obvious that where vital statistics are unreliable, the error is always of defect and never of excess.

My information as to the vital statistics of the different countries of Europe is drawn from the annual reports of the Registrar-General of England, and from that part of them which is entitled "International Vital Statistics." The earlier reports carried the columns that give the annual births, deaths, and marriages as far back as to the middle of the nineteenth century, where it was possible to obtain them from the foreign bureaus. But in some countries systematic registration was not introduced until a later period. The Registrar-General has but recently introduced into his annual reports the registered statistical details of Russia, Roumania, Japan, and Chili, and also of our Australian colonies.

With the exception of the statistical information which Malthus derived from his Swedish authorities, which have a certain approximation to accuracy, all the vital statistics with which he was furnished by the different bureaus of Europe were such as statistical experts of the present day would, at a glance, fling aside as impossible rubbish.

But even Malthus was staggered by the vital statistics of Russia which he obtained from St.

Petersburg, for he writes :—" The lists of births, deaths, and marriages in Russia present such extraordinary results that it is impossible not to receive them with a considerable degree of suspicion ; at the same time, the regular manner in which they have been collected, and their agreement with each other in different years, entitle them to attention."

That it may be clearly perceived to what amount of attention the Russian statistics bestowed upon Malthus by his St. Petersburg authorities are entitled, I give from them the average length of life in six out of the twelve Governments of European Russia. The Government of Voronesch stands first for the longevity of its inhabitants, their average span of life being no less than 79 years. The Government of Tver comes next with an average life-span of 75 years; next comes the Government of Pskovsk with $70\frac{4}{5}$ years as the average life of its people. Then follow the Governments of Novgorod with $68\frac{6}{7}$ years, the Archbishopric of Vologda with 65 years, of Kostroma with 59 years. In all Russia the average length of life was made to appear as not less than 58 years; and this at a time when in Sweden, which has all along been foremost of European countries for the longevity of its people, the average life was not more than 30 years.

Very different from the statistical information obtained by Malthus from St. Petersburg is that received to-day from the same quarter by the Registrar-General of England.

The vital statistics of Russia which he furnishes in his annual reports give the births, deaths, and marriages of the twenty-one years 1879-99, and these show that the present death-rate of Russia transcends that of any European country, and that her birth-rate is also much higher.

From 1879 to 1888 the average annual death-rate was 34·3 per 1000 persons, giving the average length of life at 29 years 56 days; and from 1889 to 1898, 34·65 per 1000 persons, giving the average length of life at 28 years 317 days. There can be no doubt that the difference between the information supplied more than a century ago to Malthus, and that supplied to-day to the Registrar-General of England, is due entirely to the greater approximation to accuracy of the latter.

I now present in juxtaposition the three highest death-rates in Europe and contrast with them those of Sweden and Norway for the same decades.

	Death-rate per 1000 persons.	Life-term.	
		Years.	Days.
Russia . . .	{ 1879-1888	29	56
	{ 1889-1898	28	317
Hungary . . .	{ 1879-1888	29	305
	{ 1889-1898	32	209
Roumania . . .	{ 1879-1888	34	352
	{ 1889-1898	33	328
Sweden . . .	{ 1879-1888	59	62
	{ 1889-1898	61	32
Norway . . .	{ 1879-1888	59	62
	{ 1889-1898	61	127

The birth-rate is even more than the marriage-rate affected by the death-rate, for it is the birth-rate which directly supplies the labour market. In some countries illegitimacy prevails more than in others, and where this is the case marriage is less frequent, partly because it often happens that those who have to support illegitimate children are thereby rendered unable to marry, and partly because cohabitation unsanctioned by marriage not unfrequently takes place. Again, there is growing in some countries the practice, that has long been a characteristic of the French, of married people limiting the number of their children; and where this practice is beheld growing, we find the marriage-rate becoming elevated without affecting the birth-rate in the degree we should expect.

Again, the differences that exist between the various peoples in the fecundity of their marriages renders it advisable to measure by the birth-rate rather than by the marriage-rate the effect upon the movement of population caused by the death-rate. In every case the birth-rate supplies the labour demand, and never provides a surplus or an insufficient supply.

Let us now see the effect produced upon the birth-rates of Russia, Hungary, and Roumania by their elevated death-rates, and place alongside the results thus obtained the results of the lower death-rates of other countries.

The table which I now submit contains the proportional number of deaths and births annually in

10,000 persons for the period of twenty years, 1879-98, with the percentages of the natural and actual increases for the period, and the percentage of excess of emigration over immigration where such excess is found, and of excess of the immigration, in the two countries France and Belgium.

1879-1898.	Death-rate per 10,000.	Birth-rate per 10,000.	Natural increase in two decades.	Actual increase.	Excess of emi- gration.
			Per cent.		Per cent.
Russia . .	345	487	...	...	...
Hungary . .	321	422	25·0	22·3	2·7
Roumania . .	296	407	30·0	25·9	4·1
Norway . .	168	305	29·8	13·8	16·0
Sweden . .	167	275	24·8	11·7	13·1
England . .	188	313	28·9	25·9	3·0
Prussia . .	236	372	30·2	24·5	5·7
Netherlands .	202	337	30·9	27·4	3·5
					Excess of immi- gration.
France . .	219	233	3·0	4·4	1·4
Belgium . .	202	299	21·1	21·8	0·7

In the above table I have been unable to state the natural and actual increases of the population of Russia from 1879 to 1898, as the estimated population of each successive year is not given, as it is in respect of all other countries. I might, indeed, seeing that for each year the registered numbers of births and deaths are given, have calculated from the excess of births over deaths the natural increase for the period. But I have reason to believe that though

the approximation to accuracy is surprising in a dominion at once so uncivilised and so extensive, yet the approximation attained is still very far from the degree of correctness that would justify my making any nice calculations from the figures as they stand. In only four of the twenty-one years over which the registered vital statistics range is the population of Russia estimated, viz. in 1885, 1886, 1897, and 1899.

In the year 1885 the excess of births over deaths as registered was only 1,120,000, yet, while the estimated population of that year is 81,725,000, that of 1886 is 85,395,000, or 3,670,000 more—an impossible increase.

Another feature in the Russian table as furnished by the Registrar-General that renders it to me suspicious, is that, though the marriage-rate as given is higher than that of any other country, it yet seems too low for the number of registered births. According to the table, the number of births to 100 marriages is 550.

One or other of three hypotheses may be adopted to account for this apparent great fecundity of Russian marriages: first, that in Russia the average number of children to a marriage is really greater than in any other country of which we have knowledge; or, secondly, that a large proportion of Russian births are illegitimate; or, thirdly, that the registration tables are unreliable. To my mind the last alternative is that which recommends itself.

I incline to believe that the registered number of births and the registered number of deaths err by defect, and that if we possessed the actual death-rate and the actual birth-rate, we should find that the average length of life in Russia was nearer twenty-five years than thirty, and that the births were proportionally to population considerably more numerous.

I have already stated that this chapter is of a statistical character. I cannot therefore hope to make it interesting to those, and they are many, to whom statistical details are a weariness to the flesh; but these details provide the data and set forth the phenomena that are required to illustrate the operation of the law of population. I hold to the belief that an understanding of that law, besides delivering the human mind from the frightful phantasmagoria of the Malthusian theory, may in the future be practically useful in the cause of advancing civilisation. From the principles affecting the movement of population, which I have endeavoured to establish, it follows that when the mortality of a community undergoes a continuous decrease from decade to decade, the number of births proportional to the population must experience a corresponding decline. This is, of course, what always takes place, although in no single case it may be apparent.

The appearance of a corresponding decline is taken away by the constant action of factors that operate to elevate the birth-rate, viz. the extension of the labour

market and the effect of emigration. According to the degree in which these factors operate, is the visible effect of the declining mortality upon the birth-rate neutralised. Ever since it has become possible to regard the tables of vital statistics compiled by most of the European countries as substantially reliable, both of the above-mentioned factors of elevation have been constantly making their action felt. From some countries there has issued forth, year by year, a larger stream of emigration than from others; and again, in some countries the labour market has been expanding more rapidly than in others. In almost every country both factors have, in a greater or less degree, been operative during the period of our survey. Thus the decline in the mortality tending to lower the birth-rate is encountered by the two factors which tend to elevate it; and in the resultant movement of the birth-rate we perceive neither the force of the lowering factor nor the force of either of the elevating factors made visibly manifest, notwithstanding that the forces of all the three are producing their full effects.

In the following tables, which exhibit in juxtaposition the death-rates and birth-rates of those European countries upon whose statistics I place reliance, I have taken the four decades extending from the year 1864 to the year 1903, and have made, when the occasion seemed to call for them, such explanatory statements as may tend to elucidate anything that seems peculiar in the movement of population.

	England.		Scotland.	
	Annual number of deaths per 10,000.	Annual number of births per 10,000.	Annual number of deaths per 10,000.	Annual number of births per 10,000.
1864-1873 .	224	353	222	350
1874-1883 .	207	348	209	344
1884-1893 .	192	316	192	317
1894-1903 .	172	291	178	298

In the four decades the death-rate in England declined 23·2 per cent., and the birth-rate only 17·5 per cent. The corresponding percentages for Scotland were 19·8 and 14·9.

The extension of the labour market in these countries is shown in this, that in the period of forty years England added 62 per cent. to her population, and Scotland 46 per cent.; and the numerical increase has been accompanied by a prodigious increase of national wealth, with a marvellous elevation in the standard of comfort of all classes.

From both countries has gone forth a steady stream of emigrants to the Colonies or to the United States, not impelled to leave their country by the pressure of want or misery, but from an adventurous spirit recognising the better prospects of material well-being held out to men of stout hearts and industrious hands in younger and undeveloped countries that are calling out for new supplies of labour.

The expansion of the labour market and this

emigration acting in concert have elevated the birth-rate in the degree in which its decline has come short of falling to an equipoise with that of the death-rate.

I now present the vital statistics of Sweden and Norway, two countries in which the elevating factor of the birth-rate has been mainly the amount of emigration that in a continuous stream has flowed outward, directed mostly to the United States.

In the annual reports of the Registrar-General of England, the vital statistics of Norway go no further back than the year 1871. The period of 33 years, 1871–1903, I have divided into four parts, the first three consisting of 8 years each, the fourth part of 9 years.

NORWAY

	Marriages per 10,000.	Deaths per 10,000.	Births per 10,000.	Natural increase.	Actual increase.	Excess of emi- gration over immi- gration.
				Per cent.	Per cent.	
1871–1878	72	173	309	11·1	8·3	2·8
1879–1886	66	165	310	11·9	4·7	7·2
1887–1894	63	171	303	10·7	3·3	7·4
1895–1903	68	153	299	12·6	10·2	2·4

The Swedish table I begin with the decade 1854–63, which preceded that in which the tide of emigration began to flow which has since characterised the movement of population in Sweden

SWEDEN

	Marriages per 10,000.	Deaths per 10,000.	Births per 10,000.	Natural increase.	Actual increase.	Excess of emi- gration over immi- gration.
				Per cent.	Per cent.	
1854-1863	76	209	333	13·2	12·4	0·8
1864-1873	65	193	306	11·8	7·0	4·8
1874-1883	66	184	301	12·3	7·4	4·9
1884-1893	61	169	277	12·1	4·8	7·3
1894-1903	60	159	268	11·6	8·2	3·4

In the Swedish table the first point which calls for attention is the extraordinary fall of the marriage-rate from an average of 76 marriages per 10,000 persons in the first decade to an average of 65 in the second, and its decline to an average of 60 in the last decade.

The second noteworthy point is the apparent retardation that took place in the general prosperity of the country after the decade 1854-63. This is shown by the lowering of the decennial actual increases. Whereas in the first decade of our table Sweden added numbers equivalent to an increase upon the population of 1853 of 12·4 per cent., in the next decade her increase fell to 7 per cent., and in the decade 1884-93 to 4·8 per cent. When we consider that the demand of the labour market is always fully satisfied whatever emigration may be in progress, it is obvious that the numerical increase made in a decade measures the prosperity of a country.

The third point which invites remark is that notwithstanding the fact that the labour market was calling for proportionally decreasing additions to the population, the natural increases did not show a tendency to fall in a like ratio; so that in the decade 1884-93, while the labour market only called for an increase of 4·8 per cent., the natural increase amounted to no less than 12·1 per cent.

Thus we see that the birth-rate made provision both for the labour demand and for the emigration demand.

A fourth point is the rise of Swedish emigration from the almost immaterial amount of 27,000 for the ten years 1854-63, till it reached 332,000 for the ten years 1884-93, equivalent to 7·3 per cent. of the population.

The decade 1854-63 was a period that seemed to be one of unexampled prosperity, though in truth this apparent prosperity was due to an inflated industrial and commercial activity, fostered to a considerable extent by the contemporaneous introduction of railways into the country.

In these ten years the population increased by 12·4 per cent., a proportional increase which Sweden had never before known, and to which she has never since attained. The emigration during those years was, as we have seen, on a very modest scale. In the three decades that followed, the aggregate excess of emigration over immigration was equal to 47 per cent. of the natural increase, and amounted to 730,000 persons.

If no field of emigration had been available, the demand of the home labour market would alone have determined the number of marriages, and consequently of births, so that the natural increase would not have exceeded what was required to provide for the supply of that market. The marriages at home caused by departure of emigrants leaving their several posts of employment to be filled as a rule by younger men, were sufficient, by the number of births which they yielded, to replace the numbers who left the shores of Sweden; for a continuous emigration is maintained by its own action in elevating the birth-rate. In the last decade of our table, we see the emigration movement sustaining a severe check, and the bulk of the natural increase retained for the home labour market. The same phenomenon is visible also in Norway. The population of Sweden, which advanced by only 4·8 per cent. in the previous decade, made in this an increase of 8·2 per cent.; while the actual increase of Norway was raised from a decennial date of 3·3 per cent. to one of 10·2 per cent. Whereas in the eight years 1887-94 the emigration from Norway amounted to 147,000 persons, it amounted for the nine years 1895-1903 to only 47,000.

We have in these figures a convincing proof that a season of prosperity had come to both countries, marked by a greater advance in the home labour demand, accompanied with an elevation of the standard of comfort that neutralised to a considerable degree the attractiveness of a settlement in the United States of America.

In Sweden the figures for the second decade of our table, viz. 1864–73, are rendered exceptional and abnormal by the occurrence of a series of five disastrous years, during which the proportional number of marriages fell from the average of the preceding decade, viz. 76 in 10,000 persons, to an average of 60 in 10,000 persons.

In the year 1867 there fell upon Sweden and also upon Norway a terrible commercial crisis, such as happens after a course of over-production and over-trading, the effect of which in throwing great numbers out of employment was continued throughout a series of years. This calamitous state of matters was further accompanied by a period of agricultural depression, the result of Sweden's adoption of the free-trade policy of England. This depression continued to be the normal condition of agricultural Sweden until the Swedish Government reversed the policy, and returned to that of protecting the country's greatest industry.

In this time of distress the Scandinavian people were not content to sit still and await the advent of more prosperous times. The instinct of their ancestors stirred anew in their breasts. The descendants of the Vikings who conquered and colonised a great part of England, overran and founded kingdoms in Normandy, Apulia, and Sicily, and by their depredations spread terror on every coast from the Baltic to the Levant, were brought to realise that in a far country there existed an illimitable field of colonisation possessing fairer lands than their own, and richer soil for cultiva-

tion, which promised to their industry a more abundant store of material well-being than they could ever expect to find at home. Then in that season of distress began the great efflux from Scandinavia to the United States of America, which has been the distinguishing characteristic of the movement of population in Sweden and Norway up to the present day. This efflux was greatly accelerated by the incidence in 1878 of another commercial crisis, the effect of which was more widespread than the former, and lasted over a longer period, as may be seen from the figures for the decade 1884-93, when the numbers who emigrated greatly exceeded the numbers who were added to the population. The native instinct of the race made their self-expatriation to take possession of a new home less painful than it would have been to peoples not possessed of their inherited spirit of adventure, and has maintained the emigration long after it ceased to be impelled by distress and became a purely voluntary movement.

The next countries whose vital statistics I tabulate are Prussia, the Netherlands, and Belgium, which show as a common characteristic a decline in the birth-rate exceedingly small compared with the decline in the death-rate—a result in each case mainly due to the expansion of the labour market, and in a comparatively small degree to the effect of emigration.

As Prussia had its boundaries largely extended in the decade 1864-73, I am unable to furnish the natural and actual increases of the kingdom till the following decade.

PRUSSIA

	Population at beginning of each decade.	Natural increase.	Actual increase.	Excess of emigration over immi- gration.
1864-1873	...	...	...	...
1874-1883	24,948,000	3,548,000	2,798,000	750,000
1884-1893	27,746,000	3,875,000	3,084,000	791,000
1894-1903	30,830,000	5,174,000	4,995,000	179,000
Population in 1903.	35,825,000			

The following table contains the number of marriages, deaths, and births annually in 10,000 persons, with the rates per cent. of the natural and actual increases, and in the last column the proportion of emigrants to the natural increase.

	Marriages.	Deaths.	Births.	Natural increase.	Actual increase.	Proportion of emigrants.
				Per cent.	Per cent.	
1864-1873	88	270	382	...	...	...
1874-1883	82	255	389	14·2	11·2	3·0
1884-1893	81	241	373	13·9	11·1	2·8
1894-1903	82	208	362	16·7	16·2	0·5

In the first of these decades both the death-rates and the marriage-rates were quite abnormal. In the years 1870 and 1871 the mortality was greatly raised by Prussia's losses in the field and from sickness in the camp during the war with France; while in 1872 it

was elevated in almost as great a degree by the numbers who died at home from the effects of their wounds and of exposure during the campaign. In 1873, Prussia suffered severely from a visitation of cholera. The mortalities of these four years had the effect of producing an abnormal number of marriages, bringing up the average marriage-rate of the decade to the high figure of 88 per 10,000 persons. In the three years 1871, 1872, 1873, the number of marriages per 10,000 persons was respectively 104, 101, 97. The explanation of the birth-rate being somewhat higher in the decade 1874-83, which was free from abnormal mortalities, than in the decade which had the four calamitous years, notwithstanding that the marriage-rate fell from an average of 88 to an average of 82 per 10,000 persons, is found in the fact that the large number of marriages in the last four years of the first decade yielded the greater number of their resultant births in the second.

Before the Franco-Prussian War, the industries of Prussia were in a flourishing condition, and the expansion of the labour market was represented by a decennial growth of population of more than 11 per cent. The excess of emigration over immigration did not amount to more than 5 per cent. of the natural increase. But the access of militaryism after the war, the stringency of the conscription, and the burdens it entailed, were the inciting causes of a vastly increased emigration.

In place of an annual departure of 10,000

emigrants prior to the war, the excess of emigration over immigration rose to an annual average of 75,600 in the decade of 1874–83, and 79,100 in the following decade. Nevertheless, the actual decennial increases of population continued to exceed 11 per cent.

But the policy of protecting the industries of Germany and keeping out the industrial products of other countries that competed in German markets with the same products of German industry, established and fostered under the auspices of Bismarck, imparted such a stimulus to industrial and commercial enterprise throughout the empire, that every town and city seemed to awake to a new life, and centres of industry began to spring up and fill with large populations.

One result of this great expansion of the labour market was that, whereas between 1893 and 1903 the death-rate declined by nearly 14 per cent., the birth-rate declined by only 3·5 per cent., and the decennial increase of the population of Prussia bounded up from three millions in the decade 1884–93 to five millions in the decade 1894–1903, the rate of increase having risen from 11·1 per cent. to 16·2 per cent.

From 79,000 persons in the previous decade, the annual excess of emigration fell to less than 18,000. This decline in the amount of emigration was consequent upon the great material betterment that had accrued to the working classes of Prussia, and rendered

them more satisfied with their lot in the home country. Notwithstanding that fewer posts of employment were vacated by death and by emigration, the multitude of posts created by the vast development that took place in the industries and trade of Prussia demanded a continually greater number of men to supply them, and thus an increase of population proportionally greater than had been made in any past decade was in this decade called into being.

THE NETHERLANDS

	Marriages.	Births.	Deaths.	Average life-term.	Children to 100 marriages.
				Yrs. Days.	
1854-1863	79	336	259	38 222	425
1864-1873	73	355	257	38 332	485
1874-1883	78	360	227	44 19	464
1884-1893	71	337	206	48 198	476
1894-1903	75	322	172	57 ...	432

	Actual increase.	Excess of emigration.	Actual increase.
			Per cent.
1864-1873 . .	310,000	44,000	9.0
1874-1883 . .	453,000	69,000	12.2
1884-1893 . .	502,000	82,000	12.0
1894-1904 . .	688,000	69,000	14.6

There are one or two points in these tables which may be adverted to.

The second table tells us of a prosperous country with a labour market constantly expanding. Though

the Netherlands have extensive and populous possessions beyond sea, yet the emigration has always been on a moderate scale. With a larger population than Scotland, Holland's emigration has amounted only to a fractional part of that of the former country, while her expanding labour market has, as a rule, called for a proportionally larger supply of labour, or, in other words, for a proportionally greater addition to her population. That the last decade has been singularly prosperous is evidenced both by the larger natural increase of 16·1 per cent., and by the larger actual increase of 14·6 per cent.

To the table giving the marriage, birth, and death rates I have added the vital statistics of the decade 1854–63, to exhibit more fully the fluctuation of the marriage-rate as affected by the state of the labour market and also by a declining death-rate. There cannot be a doubt that where it is not caused by a pestilential mortality, or by an increased emigration, a heightened marriage-rate signifies a greater degree of prosperity. As in the two decades beginning with the years 1854 and 1864 the variation of the death-rate was inappreciable, and as the average annual marriage-rate per 10,000 persons fell from 79 marriages in the first to 73 in the second, the fewer marriages in the latter decade must have been owing to a lessened ability on the part of the people to marry.

But it will be observed that the birth-rate in the second decade was considerably higher than in the

former, which witnessed so many more marriages. In the first decade the children born to 100 marriages were but 425, whereas in the second 485 children were born to 100 marriages. This was not owing to the greater fecundity of the marriages made in that decade, but to a large proportion of the marriages made in the first continuing their productiveness in the second. In any decade we may estimate that one-half of the births are due to marriages made in the preceding decade. Thus it often happens that though a decade has a higher marriage-rate, the following decade with a greatly lower marriage-rate may have the higher birth-rate. This fact makes it evident that it is utterly futile to hope to ascertain the average fecundity of any people by using for that purpose only the marriages and births of a single decade, or even of two successive decades. By taking in the half-century from 1854 to 1903, I find the average fecundity of Dutch marriages to be 456 births to 100, a proportion which is not shown in any one of the five decades. I do not doubt that, if it had been possible for me to obtain exact returns of the marriage-rates and birth-rates for a century, I should have attained to a still closer approximation to the exact ratios. It must not, however, be lost sight of that in the above computations I have treated all the registered births as legitimate; which doubtless renders my calculation as to the average fecundity of Dutch marriages somewhat too high.

What I consider as most noteworthy in this table is the small drop in the birth-rate as compared with the great fall in the death-rate.

In the forty years 1864–1903 the average life in the Netherlands has been lengthened by no less than 18 years. Whereas in the decade 1864–73 there died annually 257 persons per 10,000, in the decade 1894–1903 only 172 persons died. But while the posts of employment made vacant by death have thus undergone a great reduction, those created by the expansion of the trade and industries of Holland have become so much more numerous as to raise the natural increase of the population from 10·3 per cent. decennially to 16·1 per cent., and the actual increase from 9 per cent. to 14·6 per cent. The commercial and industrial development of Holland may be estimated from the fact that to a population of 3,431,000 in 1863 she in the space of forty years added no fewer than 1,958,000 persons, an increase of rather more than 57 per cent., while the standard of comfort of her people has been greatly elevated.

If neither trade nor industry had increased since 1864, but had remained *in statu quo ante*, the birth-rate would have fallen in a commensurate degree with the death-rate, and would in the decade 1894–1903 have amounted to 220 births annually to 10,000 persons, instead of being, as it was, as high as 322. To so great an extent has the birth-rate been kept up and prevented from falling by the commercial and industrial expansion of the country.

BELGIUM

	Marriages in 10,000 annually.	Births in 10,000 annually.	Deaths in 10,000 annually.	Average life- term.	Births to 100 marriages.
1864-1873	75	320	241	Yrs. Days. 41 29	427
1874-1883	70	314	214	46 266	444
1884-1893	72	295	204	49 7	407
1894-1903	81	287	180	55 203	354

There is only one feature of this table to which I need advert. Observe the continuous increase in the number of marriages in the last two decades. There is nothing abnormal in the birth-rate of the decade 1874-83 being almost as high as that of the previous decade, though the fall in the marriage-rate was proportionally so much greater, inasmuch as the birth-rate of the second decade was heightened by the higher marriage-rate of the first.

But the continuous decline of the birth-rate since 1874 in face of the continuous elevation of the marriage-rate demands explanation.

In the last decade of our table the marriage-rate makes an upward bound of 12·5 per cent., while the birth-rate makes an extraordinary decline, the births to 100 marriages falling from 407 in the previous decade, and from 444 in the decade prior to that, to 354.

There is only one possible explanation of this remarkable result. The relation between the marriage-rate and the birth-rate has undergone a change through

the adoption by a considerable portion of the population of Belgium of the system which prevails in France, of married people limiting the number of their children. This system enables marriages to be multiplied without a corresponding addition being made to the population. Were it not for its adoption by the French people, the proportion of marriages to population, which is as high in France as in the Netherlands, would yield an increment far beyond what there is room for in the labour market of France.

But such an increment the French prevent by making their marriages comparatively infertile. Thus the same number of marriages that in the Netherlands yields 100 children, in France yields only 68. The average number of births in 100 marriages in the latter country is 310 compared with 456 in the former. The economic conditions of France impose upon its people either comparative infrequency or comparative infertility of marriage. They have chosen the latter mode of adjusting the population to the demand of the labour market.

The manufacturing and commercial industries of France are prosperous, and population in the large towns is increasing. But even in these the expansion of the labour market is very moderate when compared with what is taking place throughout Europe. On the other hand, the agricultural population, which embraces many times the population supported by other industries, is decreasing. The so much lauded system of peasant proprietors has, when weighed in

the balances, proved an egregious failure. The peasant whose patrimony joined to his wife's dowry forms an estate of a few acres, is heir to the drudgery of a galley slave, toiling from earliest morn to the last beams of the sun, to earn an average daily pittance which, were it proposed to him as a daily wage, would move the scorn of an English ploughman. The wife who by her *dot* has doubled his estate, is very early in her married life a faded, jaded creature, prematurely aged by toil and carking care, while their children, born and bred in a joyless home, are misers in embryo before they enter their teens. Their cottage is brightened by no flowers and by no amusements. The vintage song and dance have long passed away from the pleasant land of France.

John Stuart Mill, who disliked luxury and hated the independent classes in England, glorified the lot of the French peasant proprietor, drawing fancy sketches of his abiding happiness in the feeling that the land which he cultivates is his own, of his joyous industry, of his great intelligence. He warned his readers against judging of him from the filthy hut in which he lives and from the foul rags which cover his nakedness; for the man, outwardly seemingly so miserable, may possess thousands of francs stuffed into stockings or hidden away in the thatch of his hovel.

To earn a living at all the French peasant proprietor must be very penurious; but in spite of the utmost penuriousness many fail in the struggle for existence, and are compelled to part with their properties.

Nevertheless, those in whom the gift of penuriousness is very highly developed, and they are fairly numerous, do succeed in their effort not only to live, but to save money, which they lend on mortgage at usurious interest to their struggling neighbours: and they prove the most inexorable of creditors.

Mill, lauding the peasant proprietary system of France, mentions as one of its prominent features deserving commendation, that under it the sale of land is as free as it is in this country, and that more land changes hands in France yearly than in England, not perceiving that his affirmation is substantially that very many more proprietors are ruined in France than in England, and compelled to part with their properties. For no French peasant will part from his land until he is driven to do so by stress of circumstances; while, owing to the smallness of their properties, many French proprietors must be ruined to sell as much land as is comprised in the average estate of a single English landlord. To this result the French law that compels an equal division of the property of a parent among the children is largely responsible. A father whose estate, augmented by his wife's, amounts to eight acres, dies and leaves three children. As the property can support no more than a single family, one of the children, generally the eldest, is selected to farm the whole, purchasing from the other two their inheritances, and borrowing the necessary money to do so.

In this way he hangs a millstone of debt round his

neck, which, as often happens, drags him down in utter ruin. Accordingly for some decades the dispossessed proprietors have been flying in numbers from the soil, seeking the poorest Government employments to rescue them from starving, or flocking into the towns in search of work connected with their industries. The law of equal inheritance, though eminently fair and just to appearance, like most doctrinaire laws, is economically disastrous. By constantly dispersing accumulations and preventing the growth of capital, it has hampered all the industries of France, and hindered improvement of the land on any large scale.

One benefit, however, which accrues from the thinning out of the agricultural population, is that large properties are increasing, and well-to-do tenants are taking the place of wretched petty landowners. The fact noted by Mill, with rather a triumphant appreciation of it, that the wealthy peasant proprietors exhibit the same rags and live in the same squalor and misery as the most struggling of their class, is an evidence that the blessings and elevating influences of modern civilisation have not reached them, do not indeed exist, as far as they are concerned. The law of inheritance makes as many female as male heirs. Upon this fact hinge the marriages of the petty proprietors. The farmer, as a rule, needs more than his own portion of land to enable him to marry. His penurious soul hungers to acquire more land. He marries, therefore, partly to satisfy this

craving, and partly to obtain a wife to be his fellow-drudge in the labours of farming. To a married couple thus circumstanced a large family would prove, at least in prospect, too heavy a burden to bear.

The custom in France of parents limiting the number of their children came in with, and was necessitated by, the present law of equal inheritance.

CHAPTER IV.

RETROSPECT AND FORECAST.

THE forty years embraced in the tables of the several countries, which I have used to explain the action of the law of population, have in those countries been characterised by industrial and commercial expansion, which, indeed, has been the characteristic of all civilised communities since the beginning of the nineteenth century. That century may be regarded as the beginning of the new era upon which humanity has entered—the era in which its solidarity is being achieved, in which progressive civilisation contemplates the elevation and material betterment of the whole species. The ancient civilisations were isolated episodes in the life of humanity, and their import was circumscribed by their own boundaries. One fell here, another rose there, and fell in its turn. Only the civilisations of Greece and of Rome have, since their disappearance, transmitted through the ages forces that live to-day in the literature and art of Modern Europe.

But the new era, that, in a loose way (for, in truth, several pregnant discoveries and inventions had been preparing man for it), may be said to have been in-

augurated in the nineteenth century, found all the progressive nations of the world acknowledging some form of Christianity as their faith, and thus were possessed of the essential principles that form the foundation of a progressive civilisation. This century was as the burst of spring after a long winter—the awakening of the human mind to an investigation of the forces of Nature, as by degrees the veil which had hitherto concealed them from man's knowledge was withdrawn, and he began to perceive the character and possibilities of his material environment. More and more as the century advanced, man discovered his power of utilising the active principles that are termed natural laws in a thousand ways hitherto undreamed of, for the development of the resources of the earth that avail for the support of the human race, and for the material improvement of the conditions of human existence. Passed away were the slow-creeping and slumberous ages, in which whatever principles of development were at work were operating, as it were, underground, or if they showed their head above the surface were unnoted or misunderstood. The former generations of men, with their limitations of knowledge and power, seem to pass before me as but caretakers for posterity, occupying the earth until the advent of civilised man, who as the heir of all the ages should enter into fuller and ever fuller possession of his great and rich estate. The victorious march of our progressive civilisation can never be seriously checked before its

goal is attained. It is impelled by forces material and moral that are naturally active and averse from quiescence. The civilised world cannot repeat in its experience the downfall and disappearance of the civilisation of the Roman Empire.

It is not subject to internal decadence, but is informed throughout with vital principles of progressive change. The possibility of the submergence of an existing civilisation by a deluge of barbarism has for ever vanished from human experience. But all anticipations having reference to the ultimate goal of progress must be large and general, overleaping and disregarding existing theories and speculations as to the particular modes and means by which it will be attained. We do not know enough of the precise action and the final possibilities of the forces of mutation that are stirring around us, and that are abroad in the world, to be enabled to say what will happen to influence the trend of events to-morrow or next day. It is easier to forecast with a feeling of assurance that far future to which the trend of events is bearing the race.

It is indubitable, however, that mankind is entering into a larger consciousness of its solidarity. As we sweep our glance from San Francisco to the Ural Mountains, and beyond the Cape of Good Hope to Australasia and Japan, we perceive that all the strong and powerful nations of the earth are being knit more closely together in indissoluble bonds by such agencies as the locomotive power of steam,

electrical communication, and the ubiquitous printing press, that transmit and diffuse the active forces and principles of civilisation so that no knowledge is acquired, no discovery is recorded, no invention is made, that does not become the common property of all. It is of importance also to consider that the noteworthy events that occur upon any day in one country circulate as news next morning, and are matters of general interest in all the others. Add to this that all progressive nations are developing their material resources in a manner and degree hitherto unexampled, expanding their trade and commerce, and are thereby being brought to realise more clearly their predestined interdependence and their community of interest.

From all these causes the more backward or less advanced nations of the progressive group, the more recent recruits, so to speak, in the army of progress, are receiving continuous influences from the more highly civilised, and are being potently acted upon by them, and have, accordingly, their progress accelerated, so that they are being raised to the level attained by the latter. The forward advance made in the nineteenth century was undoubtedly inaugurated by the shaking of the nations caused by the French Revolution and the Napoleonic wars, that overthrew the props and bulwarks of the feudal system, and laid the foundations of a new social order. One pregnant result of it was the stimulus imparted to the human mind by the convulsions, upheavals, and

innovations of that momentous epoch. From the moral and intellectual stimulus thus produced have proceeded the triumphs of practical science in mechanical invention, in chemical discovery, in the utilisation of steam and electricity, and in the progress of sanitation and therapeutic skill. The means and factors of progress evolved by scientific inventions and discoveries have enabled man to increase and multiply his species, to cheapen the products of his industries, weaving, chemical and metallurgic, to supply with them the most distant marts, and to receive from them in turn whatever ministers to his needs or to the gratification of his tastes, in a fraction of the time that was required for their transit half a century ago, and to arrange commercial transactions within the space of a few minutes across thousands of miles of sea and land.

Accompanying this extraordinary energising of the race, there has been in the nineteenth century a prodigious development of the food resources of the soil, that has permitted the population of the world to increase by at least 50 per cent., and has caused even this increase to be attended with an ampler supply of food and a greater material comfort for the individual human being.

The vast increase that has taken place in so brief a space of time in the earth's production of food, and in the numbers of the human species, is evidence that up till a recent period a very large portion of the cultivable surface of the globe was insufficiently

utilised for production or not utilised at all. It lay, in a great part, waste, dormant, or, judged by the standard of the present day, poorly cultivated.

Now, equipped with the knowledge of Nature and its powers that has been gained in the past century, and with the resourcefulness acquired through his inventions and discoveries, enormously enriched with the material results of his recent energising, inspired to further enterprise in exploring new fields of investigation and in developing old sources of wealth, and filled with the hopes of a brighter future for the race founded upon the evidences of social progress everywhere visible, the civilised man of the present day has come to be distinctly differentiated and developed from his ancestor at the close of the eighteenth century. Living in a new world, brought under new conditions of being, he has been wrought and moulded into harmony with his new moral and material environment. He has attained to a greater realisation of his heritage, as the Crown of Creation, in the earth and its fulness. He is making its soil yield in ever larger measure of its resources to contribute to his sustenance and comfort. He is filling its waste places with energetic and industrious populations, forcing heretofore thirsty deserts to give forth streams of water, and what were formerly neglected solitudes to produce bread for his support.

In the historic past divers forms of civilisation had growth in divers lands, flourished, and passed away. In their seats of power, while empire and military

domination lasted, industry and commerce maintained large populations, reared opulent cities, and extracted from the soil the richest harvest that the existing agriculture could produce. But these isolated civilisations rarely had a long existence. As fire unsupplied with fresh fuel dies out, so they began to degenerate and fall into decrepitude when the energy evoked by aggressive ambition and external aggrandisement was no longer called forth, when it did not happen that they were summarily blotted out or cast down from their pre-eminence by the ruthless hand of a foreign conqueror.

The civilisation that awoke to development and progress in the nineteenth century embraced, as I have said, all the strong and virile nations of mankind, the foundations of whose polity and social life have been laid in their common Christian faith, and that share in degrees differing according to their several stages of advancement in the various elements of progress that have come into force and operation with the discoveries and inventions that form the characteristic features of the past century.

No civilised community now exists in a state of isolation. All existing civilised communities are bound together by many ties, and are working together towards one end, the ingathering into an industrial and moral solidarity of all the races of mankind, and the conquest of all the material resources of the spacious earth. The bonds of material interest that are being formed among them by com-

merce and community of the elements of civilisation are of far greater importance, because of their greater permanency and growing stringency, than the mistrusts and racial antipathies that at present keep the Great Powers armed to the teeth, and that burden their peoples with an almost intolerable load of taxation. The present military situation in Europe may be regarded as an evanescent phase in the march of civilisation, marking the period of transition from what may be called pre-nineteenth century civilisation, characterised by the isolation of the individual communities of the world, to the era whose harbinger radiance may almost be seen by hopeful watchers "dawning," to use the eloquent words of a great orator, "over the hilltops of time," when men shall beat their swords into ploughshares and their spears into pruning-hooks.

Alongside of the great, strong, civilised nations of the world embraced in Christendom, a new, highly civilised Power has in recent years ranged itself. It is a mistake to assume that the civilisation of Japan took its rise when she began to equip herself with the material resources of what is called Western civilisation. The Japanese possessed an old civilisation and an enlightened social order, graced with a high refinement, when Europe was sunk in the barbarous rudeness of the dark ages. When, half a century ago, Japan realised her inability to cope with nations possessed of the material resources of the Western Powers, she astounded the world by putting herself to school until

she acquired, in the different seats of civilisation in Europe and on the continent of America, the knowledge of the attainments of each in every department of progress, and by adopting whatever she perceived to be the best in every country. Had the native civilisation of the Japanese not been such as to elevate their intellectuality to a high pitch, the rulers of Japan could never have contemplated so great an innovation, nor, if they had, would the nation have submitted to a departure from old ways, manners, and customs so radical and far-reaching. In her development upon the lines of Western progress she has exhibited a power of organisation and scientific thoroughness that has enabled her to rival, if not surpass, her teachers. Her people were both intellectually and morally prepared to add to their old civilisation all the material resources developed by modern science and approved by experience, existing in the civilisation of the alien peoples of the West. In the moral and intellectual elevation achieved for them by their native civilisation lay the secret of their so rapidly acquiring and assimilating the results of our Western civilisation and adapting them to their own social order and national ideas.

In the war with Russia, Europe beheld with admiration the patriotic self-devotion and irresistible bravery of the troops of Japan, and at the same time the innate humanity, courtesy, and gentleness of her people, with the wisdom, purposefulness, and moderation of her statesmen.

That this recent accession to the great Powers of the world has a great destiny to fulfil, no man living can doubt. But that which renders the advent of Japan a source of anxious and fearful anticipation to Continental rulers and statesmen is her well ascertained purpose of infusing a spirit of progress into the vast population of China, and of opening its eyes to the necessity of making itself strong against all the world, by adopting the material equipment of Western civilisation. It is unreasonable to suppose that a people so intelligent and so proud as the Chinese will long continue to suffer itself to be a subject of cheap insult by any European Power, or to remain in a position of humiliating inferiority to the insular Power of Japan, when once it is summoned to tread the same path by which that Power attained its greatness. The reconstruction of the Chinese Empire will of necessity prove a fateful event, and one, I believe, of happy augury for the preservation of the peace of the world.

To soothe the agony of her irreparable defeat, Russia endeavoured to appal Europe by conjuring up the spectre of the Yellow Terror ; and for her, I grant, it is likely to be no idle menace, inasmuch as China, when prepared for the conflict and conscious of her strength, is almost certain to recover her old empire in Central Asia, wrested from her helplessness by the aggressions of a European Power whose people are far less civilised than her own. I feel assured that in the course of the present century, Russia, except

in her Siberian dominion, will be driven from Asia to the western shores of the Caspian Sea. Germany, too, is striving to render the European Powers apprehensive of the advent of the Yellow Terror. She perceives in the development of China the frustration of her ambition to acquire an Asiatic dominion, and her ultimate dismissal from the waters of the Far East.

But in the alarm of Europe one great factor of the future has not received its due consideration. It requires no gift of prophecy to foretell that in the near future all the English-speaking peoples will be federated so as to act as one body corporate in relation to the rest of the world. Their different political constitutions and forms of government will prove no bar to their mutual harmony and mutual action. This federation will stretch out the hand of friendship to the ruling Powers of the Far East, and form with them an alliance to curb senseless ambitions of conquest and territorial aggrandisement on the part of any Power whatsoever.

The English-speaking communities number at present one hundred and thirty millions of souls, and at the end of the century will amount to three hundred millions, with still large powers of increase.

It would make this chapter too long were I to endeavour to enumerate the signs that are from day to day becoming more pronounced, that the moral sense of civilised mankind is revolting at the horrid spectacle of war, conducted, as any war between great Powers must be nowadays, on an enormous scale with

modern weapons wielded by modern science ; and that the peoples of Europe are both becoming tired of their burdens of military expenditure, and apprehensive of the consequences that may ensue to themselves and their prosperity in any conflict the issues of which are at all doubtful. All the trend of material progress, of developing political interests, of the enlarging ideas and thoughts of men, is in the direction of civilised nations drawing closer the bonds of friendship and mutual confidence, in their increasing recognition of the community and interlocking of their material interests.

The ancient Greeks had a saying that events and issues still in the womb of the future lay on the knees of the gods. Certainly unexpected happenings arise from time to time to confound the calculations of men. What human sagacity, for instance, could half a century ago have foretold the advent of the Empire of Japan to its present position among what the Germans call World Powers, or the probable if not certain reconstruction of the Empire of China ?

In the forecast that I have made, I have merely given my individual convictions, and conclusions derived from a long study of the trend of the forces that I have discerned operative during the past half-century. Nevertheless, those conclusions, I freely admit, lie upon the knees of the gods, and may remain there *in æternum*. In the following forecast I speak of the inevitable.

For the sustenance of by far the major part of her

population, Great Britain is indebted to the ample supplies of food that are poured into her from the fertile grain-growing plains and rich pasturelands of countries whose populations are as yet too sparse to consume the food they produce; and in this respect Germany is beginning to resemble this country.

But the countries from which our teeming population draws its necessary supplies of food are increasing in population at a great ratio, and will, it can scarcely be doubted, continue to increase until the amount of food they are capable of producing is only sufficient to provide for their own wants.

The population of the United Kingdom amounts at present to forty-three millions; and if its existing rate of growth continues, it will in the middle of the century show a population of more than sixty millions, and at the commencement of the twenty-first century of more than one hundred millions.

I apprehend, however, that before the end of the present century the ratio of increase will have been considerably retarded from the growing difficulty of purchasing from abroad sufficient food to maintain so great a population, if not from the increasing inability experienced by this country of expanding its commerce in a degree sufficient to support a further expansion of its industries.

This inability will arise partly from those countries which afford us markets manufacturing to supply their own wants, and partly from the competition of other manufacturing countries in these markets.

But let us, for the sake of argument, assume that something like the proportional increase of the last fifty years will be maintained: the United Kingdom will one hundred years hence contain one hundred millions of inhabitants. The population of Germany is at present about sixty millions. Its rate of numerical increase for the decade 1890–1900 was about 16 per cent. But let us assume that its average growth per decade in the present century will be 10 per cent., the population at its close will amount to one hundred and fifty millions. Belgium and the Netherlands, two highly industrial and progressive communities, have together at present thirteen million souls. Let us suppose them to contain at the end of the century thirty millions. The combined populations of those four countries, the British Isles, Germany, Belgium, and the Netherlands, aggregate at the present day one hundred and sixteen millions, while the amount of food raised by these countries is not capable of supporting more than eighty-three million people, leaving thirty-three millions to be supported entirely by the produce of other countries. So ample, abundant, and ready to hand are the supplies of food furnished by fertile but sparsely peopled countries, and so small the cost of importation into the importing countries, that in the British Isles, which thirty-five years ago boasted the noblest and most profitable agriculture the world had ever known, agriculture has ceased to be a flourishing industry, so that it is scarcely worth while, except on the

richest lands, to grow wheat, or indeed any kind of grain. A striking testimony to the decadence of our agricultural industry is given in the fact that since the year 1870 two thousand square miles in Ireland, that had been redeemed from the waste and brought under culture, have been again restored to the waste as not repaying the cost of cultivation.

But a century hence matters will have materially altered. The four countries I have particularised will then contain an aggregate population of two hundred and eighty millions. If the progress of science be assumed to have added, which I think is not very probable, 20 per cent. to their food-producing capacity, they will be capable of supporting from their own resources one hundred millions of people, and food for the support of one hundred and eighty millions will have to be imported. But whence are they to receive so prodigious a supply of imported food? The present European granaries, Russia and Hungary, will no longer have food to export, as their own populations will then consume all the food their soil can produce.

A century hence the agricultural resources of the United States will for the most part be required to support its own population; and the hour will not be far off when that population shall have grown so great as to need all the food that can be produced between the Atlantic and Pacific Oceans. The resources of the Dominion of Canada and of Australasia, which appear illimitable now, will not appear to be

so an hundred years hence, when their present populations have been multiplied tenfold; and their extreme limit will have been reached in the lapse of another century. We may well believe that no region in the globe capable of producing food for man, and having food to export, will be overlooked by those nations that require its importation; while the inevitable end will certainly be anticipated and provided for, if not by legislation, by the due operation of the law of population. The competition of the importing nations will grow to a great height and the price of food will proportionally rise, until the ability of the working classes to enter into the married state becomes greatly curtailed. Population will begin to decline, and the process of declension will continue until it reaches a point when the inhabitants of the country are not more numerous than the soil is capable of supporting.

I do not anticipate that the declension of the population of Great Britain, from its highest point of attainment until the equipoise has been reached between it and the produce of the soil, will be accompanied by suffering or distress or by deterioration in the standard of comfort. On the other hand, I feel assured that, during the two centuries that will elapse from the present date until the civilised communities of the world are obliged to live on the produce of their own soil, the influences ameliorative of the conditions of human life, proceeding from the further utilisation by science of the forces of Nature,

as its knowledge of these forces increases, will suffice to render the process of a rapidly declining population a kindly and undistressful one. It is not to be imagined that civilised nations, which depend for the sustenance of a great part of their people upon imported food, will not foresee long before it arrives the day when it will be impossible to receive from foreign shores food sufficient to support the existing numbers, and will not make all necessary provision to avert a calamitous issue from the inevitable cessation of the imported food supply. That such a process as I have described, in what may be termed the near future, reckoning by the life of humanity, is inevitable, cannot, I think, be reasonably doubted. Population will continue to increase at a more or less accelerated rate, according as the labour market continues to expand and to provide sustenance for increasing numbers.

That sustenance will not suddenly fail; but when the difficulty of procuring food supplies from abroad begins to be felt, the law of population will begin with unerring action to adjust the relation between the population and the food supply, until the former has fallen to a level at which it can be maintained on the produce of the soil which it occupies.

So much may be predicated with absolute certainty, but what must for the present remain in the region of the theoretical are the conditions and the phases of change through which civilised life will pass during the present transition era.

I apprehend that the era of transition will prove one of great and continued progress throughout the civilised world, such as has been adumbrated in the advance realised in the nineteenth century. I cleave to the assurance that every nation that is now a seat of civilisation shall be increasingly acted upon by refining and humanising influences, and become more enlightened and more equipped with powers that make for progress won from the conquest of Nature by the attainment of increased command over its forces. The most brilliant seat of present-day civilisation can only be considered as refined by a reference to its past ruder state, and will at a later day appear rude and unenlightened to a generation which contrasts it with the moral and material status to which itself has attained.

Rejecting as impracticable, even as impossible, and assuredly as undesirable, all ideas of human perfectibility and of social equality, I believe that, to adopt the language of the Greek poet, "God is by the teaching of experience and suffering guiding man in the paths of wisdom," and that the most perplexing and complicated social problems of the present day will by insensible advances and ameliorations find their solutions in the coming years. The elevation of mankind to the higher and purer social life that is to be will not be the effect of human foresight or of far-seeing legislative action, so much as the result of humanity's blind, unconscious gropings that have their drift and direction determined by that

good Spirit which has achieved for us as a nation that higher moral sentiment from which we look down with shuddering and disgust upon the judicial massacres of the legal code, the shocking inhumanities of the prison system, and the brutal sports of this country as they existed one brief century ago. If the public sentiment of the English people has become so changed for the better and elevated in one century of progress, as has undoubtedly been the case, what may not be reasonably hoped for from the refining and educative influences of the coming centuries?

We cannot anticipate a time when human nature, however refined, however held in restraint by conventional sentiment, and however modified in its activities by happier social arrangements, will be wholly divorced from the primitive passions that have up to the present day so largely moulded the history of nations and wrecked individual lives. I do not forecast a society so admirably organised or so interpenetrated with the principles of morality that it will contain no vicious elements, no evil natures, a society in which the policeman will be unnecessary, and in which courts of justice, criminal trials, and legal punishments will have ceased to be indispensable to the maintenance of the social order. But I do forecast a society that will have left behind it for ever the possible existence of such vice-fostering slums and dens of misery, debauchery, and crime as exist to-day in all our great towns. I do forecast a time when the refining influences

that have elevated the conventional sentiments and moulded into forms of greater grace the habits and manners of our upper and upper-middle classes in the course of the past century, will have interpenetrated to the lower strata of society, so as very largely to bridge over the gulf that separates the cultured gentleman to-day from the semi-savage coal-heaver and bricklayer. Such change, such progress will appear to be inevitable, if we consider the general trend of the civilising forces that are everywhere marking the process of time with their beneficent results.

I believe that in the progress of science the surface of the globe will increasingly become the home of civilised man, from its miasmatic and pestilential localities being cleansed from the malarious influences that render them at present pernicious to human life. Many generations are not destined to elapse before the seaboard and adjacent hinterlands of Africa shall have yielded up to science the secret of their fever-breeding potency, and before science has discovered the means of coping with it and overcoming it. May we not confidently cherish the belief that the banks of the Amazon and its mighty affluents will, ere another century has passed, be in process of preparation to receive in plains of teeming fertility the millions that are destined to occupy them?

As man increases the more formidable feræ are bound to disappear. The larger felines shall follow in the wake of the mammoth and the dodo; and

ultimately only such animals as are useful to him shall exist wherever the globe is habitable by man.

When in the remote past man was defined upon the earth, he was placed on a stage which had been prepared for him by æons of geological time, to ascend from an animal existence, working out in this mundane sphere his own salvation, until, in his attainment of the full growth of all the powers and faculties of his being, he should reach his predestined goal, when the spiritual part of his nature shall become predominant and hold in subjection his purely animal inheritance.

I am not unaware what food for laughter I have provided in the above sentence for the orthodox Darwinians of whom Hæckel has made himself the exponent. I have not obscurely hinted that there is such a thing as design perceivable in the universe, and have spoken as one who believes in the argument of Paley which, as is well known, has been long discredited by all scientists who intelligently accept the doctrine of Natural Selection: nay, it may even be gathered from my words that I still retain belief in a God who has foreordained all things according to the counsel of His will, as an old document has it. I do not deny the impeachment. I am not prepared to surrender my spiritual nature, and that hope which is the anchor of the soul, to the teachings of a science whose fundamental propositions I wholly reject; neither do I esteem Hæckel a wise man when he conducts his eidolon of a Personal God to the verge

of the material universe, and dismisses it into the void of space with the intimation that, having served its provisional purpose, and survived its usefulness, it need not return. The truth is that his contemplation of the immensity of the material universe made the conception of a Personal God too big for his unspiritual nature to receive. There is but one argument of Hæckel pertinent to my present object which I need place before the reader. He expatiates upon the millions, nay, the hundreds of millions of years that have elapsed since the germs of life first appeared upon the surface of the earth, and upon the succession of geological æons that have been required to produce the forms of life at present inhabiting the globe, and asks if we can entertain the belief that the grand procession of ever-changing animal and vegetable forms throughout the æons was but a preparation of the earth to be the habitat of a creature so contemptible as man. I think higher of man and his destiny than does the German scientist. I think that such preparation for human life was not unworthy of the Great Architect. I, too, take refuge in the immensity of the material universe, and think of the innumerable solar orbs that were the centres of planetary systems illuminated by their rays, that now accomplish their revolutions, dead and dark, their fires for ever extinguished. Doubtless each of these black masses burned like the sun in our heavens for hundreds of millions of years before its heat began to wane and its light to die out. When I think of the Intelligence

that planned, and that upholds the wondrous whole, and behold His working in the lighting and quenching of solar systems "in the dark backward and abysm of time," I am helped to understand the expression that one day is with the Lord as a thousand years and a thousand years as one day, and to realise as a truth the conception that to Him one inch is as a million leagues and a million leagues as one inch.

I hold that it is the purest folly for the finite to attempt to measure or limit the Infinite. I can understand a man bewildered by his contemplation of the immensity of the material universe, in which the science of the day beholds every atom throbbing with force, persuading himself to accept, as a solution of the vastest problem that can occupy the human mind, the mathematical formulas of Spinoza, but I cannot understand the position of the scientist who denies the existence of a designing Intelligence as necessary to account for the evidences of design everywhere present in Nature, and of an all-comprehending, harmonious and harmonising reign of order that embraces at once the interactions of the solar systems that people space and the germination in some lonely nook of earth of flowers that are born to blush unseen. It seems to me, therefore, not only not an intellectual difficulty, but an intellectual exigency, to accept the view that from the beginning the earth was the predestined theatre of human life, and that all that preceded the advent of man is to be regarded as the preparation of the globe to receive him.

At what period man was first defined upon the earth as a being possessed of reasoning powers and of far higher possibilities than the most highly developed forms beneath him, is for ever lost in the abyss of past time. There is nothing that forbids us to believe that primeval man, as yet little removed from the life of wild animals, roamed the woods a thousand centuries ago. Only well within the last ten thousand years does he emerge to our knowledge as possessing the rudiments of civilisation. The proof of this civilisation is contained in the art productions and inscriptions of ancient Egypt. In the astronomical works and architectural glories of Babylonia, Assyria, and Egypt, in the extraordinary efflorescence of art and literature in ancient Greece, as well as in mediæval Italy, we seem to have evidence that the human mind in historic times has not acquired any new faculties or increased in power. But it has broadened and become enlarged by the knowledge that has come to it from the past, but more especially by its discoveries of the potencies of Nature and by the application of its powers to the means of utilising them.

It is a succession of kaleidoscopic changes that is presented to us in the pages of history previous to the nineteenth century, with small apparent advance from age to age. In the last century, mankind, in view of its final goal, has made a forward advance much greater than that made during the whole historic period before it. I have already indicated the nature of that advance. The civilisation that has

been attained is, wherever it exists, binding together the several races of mankind and preparing the way for the universal conquest of humanity. New and potent forces are working towards humanity's final solidarity. But we are still far from the goal. The evil past is still with us, and the emancipation of civilised man from its sway is only in its earliest stage. The throbbings of the war-spirit are still felt in every vein, nor will they cease beating until many readjustments, social and political, have marked the onward progress of civilisation. But the changes in this direction that are taking place are not only of rapid development, but they contain the elements of permanency, and always advancing and becoming more stringent are the forces that in the present are making for peace, and that in the not distant future shall establish it as a law not to be broken. But to this point civilisation, though rapidly attaining, has not attained; and still, in the prophetic words of the poet who most truly voiced forth the inspiration of his Mother Age, "Through the shadow of the globe we sweep into the younger day," towards the bright future of the race which he forecasts—

"When the war-drum throbs no longer, and the battle-flags are
furled,
In the Parliament of man, the Federation of the world."

To my thought the mundane history of man has three stages of development, in the second of which we are living: first, the prehistoric existence of man, and his historic period up till the nineteenth century,

which may be regarded as the planting of the vine, its growth, its grape-bearing and the vintage season; secondly, the new era which (speaking somewhat loosely, as I have already said, for many glimpses as it were of the dawn had in former centuries sporadically appeared) began a century ago, and which corresponds to the treading of the grapes in the vat, and to the period of fermentation in which the forces of transmutation are in active and vigorous development; and thirdly, the day of fulfilled prophecy, corresponding to the gradual purification and mellowing of the wine in the cask, when it becomes increasingly more generous and pleasing to the palate.

The fermentation of human energy has, during the past century, been manifested among other things in the hitherto unprecedented expansion and multiplication of large towns as centres of the industrial life of civilised communities. But the time is not far distant when the great industrial nations of the present day must have their populations reduced to such numbers as their soil can maintain. There will then be no room for such immense town populations as London, Glasgow, and Manchester, which latter towns with their suburbs contain each not less than a million souls. In the inevitable adjustments of population to the changing conditions of existence we may anticipate a solution of some of the most troublesome social problems that are at present inseparable from the unwholesomely crowded tenements and slums of great towns. I

entertain the belief that in the growing approximation to the ideal life of humanity industrial life will be distributed increasingly into smaller centres, so that the enjoyment of the beauty and salubrity of the country will be within the reach of every artisan, tradesman, and labourer. Man, possessing no capacity of intelligently foreseeing or determining the changes that await him, will work towards the issues of the future under the law of unconscious development which embraces all living organisms. He will advance less by his own purposed and deliberate efforts at attainment than borne along towards a predetermined consummation by the drift of the tide which has carried him on its breast from the beginning to the present day.

CHAPTER V.

THE STRUGGLE FOR EXISTENCE.

BY the operation of the law which I have expounded in the second and third chapters, no surplus population can be produced from the numbers of a community increasing at a more rapid rate than the food supply. Yet so prevalent is the belief that population is always tending to outstrip the means of subsistence, that the eagerness displayed by several European nations to acquire settlements and colonies abroad is justified by the alleged necessity of finding outlets for their surplus population. The justice of this plea is apparently established when, year after year, thousands of men go forth from the home countries to settle in other lands without the labour market suffering any apparent detriment from their departure.

I have already explained that this emigration causes no economical loss, apparent or real, to the home country: first, because younger men come forward in sufficient numbers to occupy the posts of employment that were filled, or that would in the ordinary course have been filled, by those who emigrated, and who thus obtain posts that enable them to marry at an earlier age than they would have done if no

emigration had taken place. In this manner the labour market continues to be supplied to the full extent of its requirements. Secondly, because this influx of younger men into the labour market produces within two or three years an abnormal number of marriages—that is, a number of marriages much in excess of what would have taken place if the men who emigrated had remained in the country. The abnormal production of children caused by these marriages adds to the population numbers equivalent to the direct loss from the emigration.

In the prevailing ignorance of this economical law, it was inevitable that where large numbers were seen leaving a country, year after year, it should be inferred that the country was in this way being relieved of a surplus population. But when the operation of this law is fully understood, it will be seen to be a happy arrangement in the economy of Nature whereby the more enterprising portion of a community are enabled, without inflicting injury upon the home labour market, to take advantage of the opportunities of bettering their condition presented by countries that crave imported labour for the development of their resources.

Under this arrangement it has come about that continents and territories, which were originally roamed over by a few unimprovable nomads, have become in the present, or are destined to become in the future, the populous seats of the most civilised races of mankind.

It is a consequence of the operation of this law

that in the present era the United Kingdom is more densely peopled than she would have been had she not, as the result of emigration from her shores, become the Mother Country of the United States of America and of Canada, of Australasia and of South Africa, inasmuch as her commerce with their populations is the means of enriching her mercantile classes and supporting millions engaged in her mining and manufacturing industries.

Whether as the long result of time, in the developments of the future, pauperism will be eliminated from the economic conditions of the most civilised peoples, is a question upon which I do not venture to pronounce any opinion ; but it is a fact that within living memory the number of paupers proportional to population in the United Kingdom has declined from one in twenty to one in forty.

This result must be attributed to the greater comfort and improvement in the condition of the working classes, enabling them in a greater degree to support indigent relatives who have survived their ability to continue as active workers in the labour market. It is, however, scarcely conceivable that any social advance can be achieved that will obviate the necessity of a large number of superannuated labourers, of aged women, and poor widows with their dependent offspring, being supported either by private charity or by statutory provisions for their maintenance. This necessity may be regarded as inextricably attached to the circumstances and conditions under which

human society is organised ; and, among other things, it subserves the high end of calling forth the best traits of human nature, and emphasising the claims that his poorer brother has upon the richer and more fortunate man. It is, moreover, a mark that could not fail to be vouchsafed, of our modern civilisation, that the State should recognise as obligatory upon it the duty of providing for such of its citizens as cannot by reason of their helplessness find in the labour market the means of procuring a livelihood. The existence of this helpless class cannot be attributed to population outstripping the means of subsistence, seeing that the members of it are unable from obvious causes to take any part in the struggle of life. They cannot, therefore, be regarded as pressed down or driven to the wall by the stronger, or, to use the appropriate Darwinian expression, by those who are possessed of more fortunate variations.

Besides the paupers who are maintained as a fixed burden upon the community, there is the class of able-bodied vagrants or tramps, the victims of their own disinclination to do any form of work, who individually earn by begging, chiefly from the labouring classes, what is equivalent to an average working man's wage. These number, I believe, not much under one hundred and fifty thousand in the United Kingdom. Inured to all weathers, avoiding ablutions, evil-smelling, roaming from place to place in their boundless freedom, though they obtain their means of living by presenting an appearance of abject misery,

they enjoy life to the full as much as any other class of the community. In the sunny lands of Southern Europe, where indulgence in the *dolce far niente* is much more than in this country the effect of climate and temperament, the mendicants bear a much greater proportion to the population. They exist in such numbers not because they could not find a place in the labour market, but because they refused to enter the labour market. Accordingly, the labour market is constrained to find supply as if they did not exist, seeing that virtually they do not exist for its purposes. They do not exist as a class by reason of the labour market being overstocked, but because they elect to live outside the labour market, and to depend for their subsistence upon the charity of the public.

In a similar category we may place the great army of thieves, criminals, and prostitutes known to the police, who are to a large extent the product of the evil conditions of slum life and of their own vicious propensions. But few of this army of evil-doers have been driven to their present occupations from their having been unable to find posts of employment in the labour market. Why then, it may be asked, are they found existing in the midst of a community so wealthy, and in the heart of a civilisation so highly developed as is that of the United Kingdom?

Man is differentiated from the lower creation by the fact of his depending for his development upon his own efforts to better his condition, and attain to the full possession of the powers and faculties with which

he is endowed. The individuals of the various species of the lower creation are not differentiated in such a manner that while some can obtain food others are unable to do so. The weaker individuals of a species as well as the stronger live in such an abundance of their proper food that they cannot, under normal conditions, starve for want of it. Every one of the lower animals that survives to become a food-seeker is, so far as regards his power of obtaining food, and as regards all the other ends of his being, "*in seipso totus teres atque rotundus*." Though no two of them are quite alike, there yet exist no important differentiations between the members of a species that affect their individual well-being. But it is different with man, the crown of the animated creation, and therefore of created things the most complex in his powers, capacities, and habits. It is due to the fact that man has a moral basis to his being, that men cast in the same society differ to so great an extent as they do in regard to the principles and motives of their actions, and that their individual differentiations are subject so largely to be modified, accentuated, or weakened by the moral and material conditions and circumstances in which they are reared.

This consideration it is which renders it almost as difficult to conceive of a Newton or a Shakespeare being born and reared in a London slum as in a tribe of Australian aborigines. The moral element as instrumental in determining the characters and careers of men is exemplified by what is often seen within the

bounds of a single family. The moral atmosphere and upbringing of the children are the same, yet not unfrequently one member of a family becomes, by reason of his moral delinquencies, a social wreck, while another, by virtue of his moral qualities, rises high above his original condition in the social scale. Nothing similar is found in the lower creation among individuals of the same species. Each animal, except in the rare cases of monstrosities and such as are possessed of congenital malformations, realises and fulfils the end of its being. Man alone is an imperfect being. He is still in the process of development advancing towards a yet remote ideal. His moral being partakes of imperfection in a greater degree than his physical, though even physically men differ individually more than the lower animals. In one respect man is at apparent disadvantage compared with them. As soon as the protection of the parents is withdrawn from the offspring, the individuals of the various species find themselves possessed of the means of securing food; but man, as soon at least as he has emerged from the rudimentary stages of existence into a civilised social organisation, has to obtain his livelihood by finding a place in the labour market. In a great complex community like that of Great Britain, with its vast diversity of trades, occupations, and employments, commercial, manufacturing, mining, and agricultural, and its unequal distribution of wealth, there cannot fail to be a long series of gradations in the material

conditions of the people, with much apparent anomaly in the general arrangement at particular points ; nay, there cannot fail to be a constant drip drip of human failure from every part of the social edifice, forming in places pools of foul sedimentary deposit, even while the labour market is capable of giving employment to every man willing to be employed. The wretched victims of intemperance and of vicious propensions, fallen in many cases from bright hopes and promising opportunities, have a tendency to herd together and form nurseries of vice and crime, as we see in the slums and rookeries of our great towns. The children that are born and reared in the moral miasma of these foul resorts are not born in the labour market, nor fitted for entering it.

Let no man labour under the delusion that the vice and misery that abound in London's saddest places are attributable either to a deficient labour market or to the inhuman arrangements of a corrupt civilisation, as Socialistic writers would fain persuade us is the case. They are for the most part the effect of the unwholesome aggregation of vicious individuals, the accumulations of the continuous deposition of human sediment that is ever falling out of respectable society, a decadence that no known or conceivable organisation of benevolent agencies can suffice to prevent or, in any great degree, to mitigate.

But the misery and destitution of great towns is not confined to the creatures who dwell in slums and rookeries. In the crowded streets of London

where dwell the wage-receiving classes, are found thousands of families living in conditions of inconceivable squalor, of hunger and nakedness, where the fathers, earning sufficient wages to maintain their families in a decent comfort, spend their earnings in drink. In these streets are to be found thousands of men who were once secure of a place in the labour market, but who have been cast out from it in consequence of their having become drunkards. They, by their misconduct, have thrust themselves out of the labour market, as men who cannot be trusted to continue for a day or an hour at their work, and their wretched wives and children suffer starvation in the single rooms which are their homes. I need not speak of the dwellings made desolate by drunken mothers. It is enough that I press home the truth that by far the larger part of the misery of our great towns is due neither to a defective and corrupt social organisation, nor to the hardheartedness of the rich, nor to the want of a sufficient labour market, but to individual vice and self-indulgence, and we can only deplore the fact that, from the nature of the case, the innocent wives and helpless children, who suffer the most acutely, are more numerous than the transgressors.

If we add to the host of vagrants, thieves, and prostitutes, the victims of drink and their hapless dependants, and compute the aggregate of these classes at seven hundred thousand for the United Kingdom, this estimate, I incline to believe, will err rather

on the side of exaggeration than of defect. Adding again to these the pauper roll of the United Kingdom, we get out of a population of forty-three millions a number considerably under two millions, of whom the greater number have spent their day of labour and become worn out in the labour market, while the remainder have either refused to enter that market or have been cast out from it. But these various categories are not all to be characterised as miserable ; forasmuch as those persons comprised in the pauper roll have an assured maintenance, while the vagrants accept their lot as more desirable than that of working men.

Are we, I ask, entitled to speak of any part of the above aggregate of two millions or under that figure as a surplus population due to the population having increased faster than the means of subsistence ? Is it to provide outlets for such a surplus population that European nations are seeking to acquire colonies ? Does any portion of such a surplus population go forth to other lands to seek material betterment ? Would any portion of it be received into any young country that is inviting emigrants from other lands to develop its resources ?

When I consider the amount of imperfection that cleaves to human nature, and also the complicated network and interlocking arrangements of our industrial and commercial system, with the attendant instability of human affairs, far from being surprised at the numbers represented in the several categories I have

mentioned being so large, I am amazed at their smallness, and regard the result as a manifest evidence of the progress of the race toward "the younger day" of which the poet speaks. Matters were worse, infinitely worse, a hundred years ago.

Before I proceed to consider the *bond fide* unemployed, I wish to discuss briefly this question: Is the natural and inevitable condition of human life a competitive struggle for existence in which the strong survive and flourish, while the weak go to the wall and perish? I need hardly say that the affirmative answer to this question is regarded as almost an axiomatic truth by those who apply to human life the great principle of Natural Selection that is assumed to be operative throughout all organic existence, determining the survival of the fittest. There are those who point to the Stock Exchange in London and Wall Street in New York, as well as to the various Bourses on the Continent of Europe, and select the gambling speculators who, in their struggle to make wealth rapidly, seek to devour one another, as typical of the business man of commerce, and their methods as representing the ways of the business world; whereas these men are excrescences and ulcers upon the useful and necessary institutions where they pursue their infamous practices, and I would as soon think of investigating the laws and conditions of health in a lazar-house as the laws and conditions of ordinary commerce among the bears and bulls of the Stock Exchange. The existence of this class of social wreckers is one of

the anomalies that spring out of the imperfection of human nature, which imperfection can at no point be wholly got rid of, and in certain fostering conditions breaks forth with startling prominence.

The conception of human life as a competitive struggle for existence, in which only the fittest survive, is wholly incompatible with the conception of man as a social animal. Four hundred and ninety-three years before the Christian era, Agrippa Menenius, addressing the seceding plebeians of Rome on the Sacred Hill, showed a truer logical perception when he spoke of the State as a body corporate, whose several members depended for their individual well-being upon their mutual co-operation. In several of his epistles St. Paul elaborates the idea of the Church as being one body composed of mutually dependent members, so intimately connected that if one member is sick all the other members suffer in sympathy with it; and it is very obvious that his language is drawn from the wider conception which he had formed of the interdependence of individuals and classes in the social bond of the body politic.

Surely this conception is far more in accordance with the phenomena of social life than the Darwinian idea. For how, unless it were the truer idea, could the vast material improvement that has been experienced in Great Britain by every class in the community during the last century have taken place? Every single industrial class within the bounds of this realm has not only flourished, but has been elevated as to its

standard of comfort from top to bottom. While I admit that in every class there is a certain amount of residuum—so small, however, in respect of the mass as to be practically inappreciable—composed of failures due to individual vices, I yet feel myself justified in making the general affirmation that the whole body of men of every class within the pale of the labour market are survivors in the struggle for existence. If this can be said to be the case, and it surely cannot be denied, what meaning can there be in asserting that mankind is subject to Natural Selection, and that in the struggle of life it is the fittest who survive? Where all or almost all survive, are we to be told that it is because all or almost all are the fittest?

But it is asked: Do we not see the principle of Natural Selection operating when in every department of human activity we see those who are called successful men outstripping their fellows and making their way over their heads to fill the more prominent posts in their businesses and professions, as well as in the society in which they move? I acknowledge that, when the stronger and more self-assertive, the more clever and intelligent, the braver and more self-reliant, outstrip and leave behind them in the race for wealth and honours the less happily endowed by nature, and take their places in the foremost ranks of their several spheres of life and action, their success may be attributed to the operation of Natural Selection—if in that term we comprise, as we assuredly ought to

do, every act and phenomenon of Nature, from an act of chemical attraction or repulsion to a conclusion of the mind: for every manifestation of natural activity is necessarily an evidence of Natural Selection.

But if we understand Natural Selection in its Darwinian sense as meaning the survival of the fittest, I do not think it applies to human life. Those who are outstripped by more successful men are not thereby destroyed, or driven to the wall; nay, they are in no way defrauded of any part of their due share in the labour market, nor are they prevented from advancing as far as their own capacities can carry them. It is true, some believe that they have a right to complain when places to which they were hopeful of being promoted are given to others as the reward of greater industry or superior ability, or are attained as the gift of fortune by favour or influence. But they do not complain of being driven to the wall, inasmuch as they remain where they were in the labour market. They have not been exterminated: they survive. Successful men also, while they do not depress those whom they outstrip, in almost every case lift up others—relatives, friends, or dependants—and secure for them advancement which they would not, perhaps, attain otherwise. But we may bring higher considerations to bear upon this question. Individual differentiation is the essential condition of man in any organised society. Men are not born equal, nor born to be equal. For if they were, the individual differentiation would not be so great or so extremely

varied in its character. Whatever right a poor earthenware pot may imagine it has to say to the potter, Why hast thou made me thus? it cannot surely entertain the idea that it has a right to say to its purchaser, Why have you not valued me at the same price which you paid for that costly vase, for which you paid a thousand times the sum you paid for me, though it was fashioned by the same potter as myself? Yet many blame the arrangements of society and the principles which govern the labour market for the small account in which they are held, and the small value that is placed upon their labour. Men differ; and those who, by reason of their superior differentiations, gain the higher posts and play the foremost parts in human society, differ from their fellows, not for their own advantage merely, but for the advantage of the common weal; for they are those who set on foot enterprises that promote the general well-being of a community, or who extend the businesses with which they are connected, and so furnish the means of living to a larger number of persons. It is through their energies and intelligence that the standard of comfort of the whole community is raised. They are the pioneers of an advancing civilisation. If the working man who earns a daily wage that enables him to maintain his family in comfort regards their luxury and pride of life with an eye jaundiced with envy and rancour, he shows his ignorance of the material blessings which the objects of his spleen have brought to his door and into his dwelling.

If he say to himself: By the labour of my hands I helped to raise the edifice of this man's prosperity, why then should I lack so much and he enjoy such superfluity of the good things of life? Thus I answer him: The man whom you so envy found for you, and for hundreds like you, a place in the labour market, is feeding and clothing you, has elevated your condition in life and your standard of comfort. Take then with gratitude the daily wage which you are able to earn, and learn this, that towards the promoting and advancing of the general prosperity of a locality or of a nation, one ounce of brains is worth a ton-load of legs and arms. If then you have only legs and arms, use them for your support, and in discharging your duty to yourself and to society you will ennoble your daily toil.

I come now to consider the amount of competition that exists in the labour market, and that in so many quarters is so loudly and bitterly voiced. In the upper classes and in the middle ranks of life it is principally expressed in complaints by parents of the difficulty they experience in getting their children placed out in the world in suitable situations. But the competition is more limited than is generally believed. It scarcely exists among the wage-earning working classes. Artisans and labourers do not experience any difficulty in finding suitable places in the labour market for their children. It is in the several professions, including literary men and artists, and among those who aspire to be office clerks, that

the greatest amount of competition for a livelihood exists. I have seen brought forward as a proof of the dire struggle for existence that takes place in London, the affirmation that when advertisement is made for an office-boy or for a shop-boy, hundreds of lads, in every single case, compete as applicants for the post. This is a natural result when we consider how many lads are on the alert in London for such posts, and how few of such posts are advertised when they fall vacant. But the lads who have been disappointed in securing the advertised situations have no difficulty in finding similar situations that have not been advertised. I think that it would be difficult to find, even in London, a healthy boy, thirteen years of age, willing to work, out of employment, or finding employment difficult to procure.

When we turn to the professional class, which embraces medical men, lawyers, clergymen, engineers, and other special but smaller groups, we find the several professions normally overstocked. That overstocking should be the normal characteristic of this particular part of the labour market is obviously an inevitable effect of its power of attraction. Posts of employment in any department of professional work are regarded in the light of prizes in the social system. They confer upon their occupiers a certain position conferring respectability. Their occupiers, in short, rank as gentlemen. Each profession embraces men sprung from very different ranks of society, and derives a certain standing and dignity from the presence in it

of those who belong to the higher social grades. Moreover, the utility of the various professions in the scheme of modern society elevates those who are pre-eminent in skill and ability, both in respect of social honour and the acquisition of wealth, above the rank and file of the professions to which they belong. Thus in the arena of a profession, where even the lowest post is a social prize, there exist posts that are beyond others brilliant and splendid prizes. Professional posts are only for the specially educated and trained. Nevertheless, the attractions which they possess for young men keep up the supply to a point rather beyond the demand. But there is this principle constantly operative which militates against a temporary great overstocking becoming a permanent one, namely, that when the supply in any profession becomes much in excess of the demand, the knowledge that such is the case acts as a deterrent and prevents many young men from embracing that profession. This principle alone prevents the overstocking in any profession when at its greatest height from being tenfold greater. From the nature of the case the race is to the swift and the battle to the strong, and if there enter into a profession one who can neither run nor fight in its arena, such an one ere long discovers his ineptitude for it, and finds outside of the profession some post that enables him to live.

There is always in London a great demand for office clerks and a much greater available supply. The boy who for the first time takes his place on an

office stool has ever in his mind's eye the prospect of promotion. The majority of office clerks are drawn from the working classes, and these naturally consider that in becoming clerks they have risen above their origin. This has been their incentive to aspire to be clerks, that they will no longer be numbered among the working classes, but will have a social standing above those who are engaged as factory hands or in handicrafts. But when their efforts fail to succeed in getting places as clerks, many abandon the attempt, and seek and have small difficulty in finding employment in other departments of the labour market.

The labour market has such a diversity of employments, that it seldom happens that, when one fails to achieve a post in the department of his first choice, he does not find a post in some other department for which perchance he is better qualified.

The difficulties that are imagined to stand in the way of qualified men finding employment, as they exist in some minds, have their origin in the belief that the principle of Malthus is constantly operative and making the supply for posts in the labour market always greater than the demand, arising from the tendency of population to, etc. etc. It is, however, the fact that, barring imbeciles and the victims of their own prematurely developed vices, be it either an ingrained laziness or an appetite for drink, every individual willing to work, with brain or with hands, according to his faculty, obtains a post of employment. I insist upon this fact being duly con-

sidered, that every individual, not a sot or an imbecile, who seeks a place in the labour market finds one, and if he does not obtain the post to which he aspires, he gets one which enables him to live, and which, if he has anything in him, gives him a starting-point for higher achievement. This is the fact that beyond all doubt proves that not more people are born fit for posts in the labour market than are required to supply its demand. If there are born persons unfit when they are grown up to take posts in the labour market, the posts which they are unfitted to occupy are occupied by young men who obtain their place in the labour market sooner than they would have done, if the persons who are unfitted to occupy them had been fit to occupy them.

But in our great towns the manifold eventualities that arise in the industrial world are productive of much individual suffering and misery. Among such eventualities may be reckoned ill-health that incapacitates for his daily work, it may be for life, the wage-earner of a family, and business failures that throw many men out of employment. In the latter case, where multitudes are discharged from their situations, owing to no fault or failure of their own, the search for other situations on the part of those who are discharged is very often long and arduous, if it prove not an altogether hopeless task. Especially are elderly clerks and elderly craftsmen at a discount; for in the demand younger men obtain the preference. Those who devote their lives and energies

to ameliorating the condition of the poorer population of our great cities are able to tell many a heartrending tale of the sufferings of families whose wage-earners are unable to find employment. The perturbations of the labour market have their exciting causes in the inalienable imperfections of human nature. The greed of money leading to hazardous speculation joined to the incalculable combinations of circumstances, brings down in sudden ruin private firms and old established commercial institutions. In the interlockings of commercial and industrial affairs, the catastrophe that plunges in ruin a bank or a great firm may involve in its engulfing whirlpool thousands of private fortunes, and disturb, to the ruin of multitudes, the credit system over a vast area.

Bold speculation often leads to great success and to the acquisition of large fortunes; but, as in the case of the roulette-table, the success of a few winners proves an irresistible temptation to many whose ventures end disastrously. The safe paths of commerce and industry are forsaken for bold strokes and high play, with fatal result to the majority of those who yield to the speculative mania. But disaster does not always end with the immediate victims. Frequently a multitude of employees, and of firms associated in business with a great firm that has failed, are involved in the shipwreck of the latter. The numbers rendered destitute by such eventualities and the consequent misery it would be folly to connect with an assumed tendency on the part of population

to increase faster than the food supply, as it would be to regard them as due to the operation of a Darwinian Natural Selection. There are trades that one might characterise as varying normally from time to time in the amount of employment they give, such as the building trade, and such trades as supply works of decorative art and minister to luxury. These depend for their prosperity upon the general prosperity of the community. There come to every industrial and commercial country seasons when money is said to be scarce and seasons when money is said to be plentiful. In the latter case all arts and industries that minister to luxury maintain those who are employed in them in the receipt of sure and good remuneration; in the former case the demand for the productions of such employments becomes very attenuated. Many producers cease to be employed, and most of those who continue to be employed are obliged to submit to be remunerated on a more meagre scale.

Take, again, the building trade. Our great cities are almost all rapidly extending, in many cases shooting out streets and suburbs in all directions like the rays of a starfish. Provision has constantly to be made beforehand for the requirements of an increasing population; and it is invariably the case that master builders, who are, in a manner, compelled to erect streets and houses upon speculation, so far overshoot the mark of the immediate need, that when there takes place any slackness in the industries of the town, or even without such an impelling cause,

they are obliged to bring their building operations to a halt. Then multitudes of their employees are necessarily for a time deprived of the means of earning wages. The normal condition of the building trade is thus one of fat seasons followed by lean seasons; and the workmen at the time when they are most fully employed cannot fail to know that there is coming a time when work for them will be slack, precarious, and difficult to be obtained. The same conditions prevail in all employments that are occupied in making anticipatory provision for the wants of an increasing population.

The question arises: Should we expect, when a time of slackness occurs in such employments, the unemployed to suffer destitution and to become the objects of public compassion and charity? The wages earned by them when employed are high, owing to the brisk seasons requiring all hands, and also to the strong trade organisations, which take due cognisance of the urgency of the labour demand. What then should be expected of men who earn twice the wage of an ordinary labourer, and who know that a slack time follows a season of good wages as surely as night follows day? The time when work is difficult to be obtained by the bulk of the workmen is small compared with the time during which they are employed, yet no men have more impressed upon them by circumstances the necessity of providing against a rainy day, and no men are better able to make the required provision. Many, of course, do so,

and neither they nor their families suffer when the evil day comes. But this is not the case with too large a proportion of the class. Too many are the victims of intemperance, and spend their earnings as if their good times were assured against any intermission. But there are many who have not even the wretched excuse of intemperance for dissipating their wages, who do not save in view of the day which may find them out of work. No reasonable man would grudge the working man his enjoyment of what good things he can lawfully use—that is, what his means permit. But to ascertain what his means permit he must look not merely to the passing hour, but to the future with its certainty of change and its responsibilities. It is one of his first duties as a citizen to ward off from his family, when it lies in his power to do so, the possibility of famine. Notwithstanding all the evils and anomalies of our social and industrial life, this would be a happy and desirable country for its working men if they would only exercise a reasonable thrift and keep themselves sober.

When we turn to consider the commercial rivalry of the different nations, we find a general consensus of opinion that in this field of human action is illustrated the great law of Natural Selection, or the survival of the fittest, in that internecine struggle for existence, in which, according to the orthodox Darwinian doctrine, all life is of necessity involved.

But a wider outlook will correct this conventional way of thinking in regard to industry and commerce.

I have already endeavoured to show how, in a community, the effect of the keenest individual competition is to elevate every class, and that the successes and triumphs of such individuals as are more highly favoured and exceptionally endowed prove the means of raising the status and the standard of comfort of the whole community: that, in short, while competition is the law of life, it is Nature's ordinance for making each individual contribute in the most effective manner to the general benefit of society, and a salutary principle having for its end and aim the distribution and dissemination over the whole of the wealth created by the brains and the hands of its component units. It is the principle of one for all and all for one, not definitely realised as the rule of individual action, but necessarily involved in the concept of man as a social being, and of society as an organic whole.

Not less marked is the operation of what is essentially and fundamentally the same principle in the arena of international commerce. The action of international trade is to bring the different nations of the world into communication with each other, and thus to create among them a sense of community of interests as well as to stimulate their several industries. It thus becomes, if not the supreme, yet one of the most important factors in the advancement and development of civilisation as well as in the extension of its area.

The commercial prosperity of a nation can in no case prove a detrimental element in the great com-

munity of nations. It must, on the other hand, be attended with beneficial effects beyond the borders of that nation.

Thus the enormous development of industry in Germany that followed upon her adoption of the principle of protecting her native industries made her a great exporting country. But the subsequent growth of wealth created in her people new wants and an enlarged desire for the products of the soil and the manufactured articles of other lands; the effect of which upon these countries was to stimulate the cultivation of the special productions and special manufactures which Germany required.

As in society man's first care and duty lies obviously in studying the interests and well-being of his own household, so the first care and study of a nation's Government should be the welfare of the people whose interests are entrusted to its keeping. The inner circle should be first cared for before the claims of the outer circle begin to engross the attention of an individual or of a community. In this way the influence for good of the inner upon the outer circle will become increasingly greater.

INDEX

	PAGE
Advent of man, preparation of the world for	220
Ages at which different classes marry do not affect the labour market	156
Agricultural life belongs to low stage of human development	128
Agrippa Menenius	237
Amount of illegitimacy does not affect labour market	154
Analogy of Nature makes it unnecessary in any case to have recourse to the imaginary action of individual differences	27
Analytic review of passage in chap. iv. <i>Origin of Species</i>	84
Analytic review of paragraph in which Darwin maintains that individual characters may lie latent and reappear after many generations	94
Ancestors, our, their belief in a Benevolent Deity	45
Ancient civilisations, isolated episodes in life of humanity	199
Anecdote of female cat devouring her kittens	33
Apparently fortuitous, the, falls under domain of law	50
Arrangement of Nature to supplant unimprovable by civilised races	227
Average fecundity of marriages, how obtained	191
Average life-terms of European nations, their great differences	137
Balance of life in Nature, how it is preserved	49
„ „ between herbivorous and carnivorous animals	8
Battle between two great tigers	24
Bear family non-prolific, males remain with females and their young	39
Belgium, falling birth-rate and rising marriage-rate	193
Birth-rate declines as death-rate falls	177
Building trade, its fluctuations	247
Business of science not to deal with the immorality but with the falseness of doctrine	46
Carnivorous animals keep their numbers at same point	53
Cat and her kittens, anecdote of	33
Causes that have impoverished peoples once great and wealthy	118

	PAGE
Chance cannot enter into Nature's arrangements . . .	50
Characteristic of Darwin	98
,, of varietal forms	79
Check, Nature's, not the same for all species	57
Cholera in Mysore, recovery of havoc caused by it . .	159
Civilisation, modern, refined only by reference to the ruder past	216
Civilised communities to-day bound together by many bonds .	205
Classes that elect to live outside the labour market . .	230
,, that are outside of labour market do not form a surplus population	235
Cod, its great procreativeness, etc.	58
Combats between males of gregarious species	30
Commercial prosperity of one nation beneficial to the community of nations	250
Competition in labour market does not drive the weaker to the wall	238
,, in the professional classes	242
,, of young people for employment	241
,, the law of life and Nature's ordinance	250
Confidence that his health and power of earning wages will continue, the labouring man's best asset in contemplating marriage	151
Conscience speaks of more than molecular movement . .	111
Continuous efflux of emigrants keeps up the normal population .	164
Creation of new posts of employment, all growth of population due to it	146
Creed of science, the, not a scientific creed	106
,, ,, composed of speculative audacities and imaginary forces	106
Cubs of carnivora when first seen abroad accompanied by both parents	31
Darwin, his acquaintance with phenomena of Nature and lack of true insight	108
,, his allegation that free intercrossing does not necessarily eliminate the effects of Natural Selection	86-87
,, his assumed factors have no vital connection with the facts they are invented to explain	107
,, his argument that we can only judge whether his hypothesis is an unwarrantable assumption by seeing how far it accords with and explains the general phenomena of Nature, its cogency	71

	PAGE
Darwin, his belief that individual variations can lie latent, and transmitted for almost any number of generations .	100
„ his concept of developmental ascent from a variety to a distinct species	70
„ he looked for the checks upon prolific species after they had done their work	19
„ his assertion of the indefinite power of latency of individual variations, his greatest triumph over the intelligence of his contemporaries	93
„ his struggle for existence could not remain in obscurity	16
„ his suppression of the radical difference between individual and specific variation	78
„ his theory accepted without examination of its basal principles	65
„ his inability to account for the non-increase of the most vigorous species	5
Declining industries, their effect	147
Decrease of pauperism in Great Britain	228
Deficiency of labour, no, caused by emigration	226
Design alone in Nature's arrangements	51
Differentiation, individual, essential condition of man in society	239
Domestic pigeons, all breeds occasionally shed their varietal characters	103
Dutch marriages, average fecundity of, how obtained	191
Eagles, their increase, how restrained	29
Economic purpose of Nature in giving their procreative power to prolific species	57
Effect of declining industries	147
Elephants, destruction of young by the great carnivora	28
„ their slow breeding	28
Elevation of humanity in refinement not the effect of human foresight	21
Elimination of excess of reproduction of carnivorous animals takes place in infancy	18-19
„ by males of young broods stops at predetermined point	52
„ by males, how regulated	54
Emigration causes no deficiency of labour	226
„ its effect in producing marriages	160
„ (Irish) distressful and compulsory	161
„ continued, keeps up the normal population	164
„ from Norway and Sweden, its rise accounted for	182

	PAGE
England as populous as if it had sent out no emigrants . . .	166
English-speaking race, its rapid growth . . .	209
Epidemical scourges, their disappearance from Europe since 1875 . . .	136
European military situation to-day, an evanescent phase . . .	206
Excess of tigers, not eliminated by famine or mutual slaughter . . .	12-15
Explanation of effect caused by light breaking in upon nursing lioness . . .	34
Factors that elevate the birth-rate . . .	178
Fecundity, difference in, of marriages of different countries . . .	155
Fineness of Nature's adjustments . . .	52
Food supply, forecast . . .	211
France, small percentage of children to the average marriage . . .	194
French peasant proprietor, fanciful description of him by J. S. Mill . . .	195
Galton on inherited genius . . .	87
General consensus as to a Nature-creed, of no value . . .	6
Generic characteristics that appear sporadically . . .	79
Generic characters that appear occasionally in individuals are fading . . .	99
„ „ persist in appearing long after their pristine vigour has waned . . .	103
German industries, effect of a protective policy . . .	188
Gregarious species, significance of the combats among males . . .	30
Growth of population due to creation of new posts of employment . . .	146
Hagenbach's, Mr., experiment . . .	10
How man forms his breeds . . .	85
Hypothesis, its place in science . . .	60
„ when legitimate? . . .	61
„ how Newton verified his Hypothesis of Gravitation . . .	62
Hypotheses, Can Darwin's assumptions be called legitimate? . . .	63
Illegitimacy does not affect labour market . . .	154
India, effect of British Raj as to its population and resources . . .	125-128
Individual differences, pre-requisite necessary for their accumulation . . .	78
„ „ Nature's object in bestowing them . . .	82
Individual differentiation, essential condition of man in society . . .	239

	PAGE
Individuals cannot go out of their specific form to originate new varieties	82
Individual variation (the evolutionary), a creature of Darwin's imagination	63
" " its assumed action in each generation	65
" " its assumed action through illimitable time	69
Individual variations only used by man in forming his breed	83
" " cannot elude the destructive action of marriage	91
" " in free intercourse that takes place in Nature die out in the course of a few generations	103
Inferior productions not rigidly destroyed by Nature	67
Inheritance, its governing laws in certain respects incalculable	81
" of individual variations ruled by the same principle	
" as inheritance of blood	88
" how it acts in the pairing of men and animals	90
Injurious variations not necessary to Darwin's theory	67
Insanitary conditions of Mediæval Europe	141
Intermediate forms, their absence	76
Ireland, increase from 1690 to 1845	121-125
" effect of stringent application of Registration Act	170
" emigration from, distressful and compulsory	161
Japan, its rise to the rank of a Great Power, its ancient civilisation and its adoption of Western civilisation	207
Labour market, the, supplies the means that enable men to marry	149
" " how it is supplied with labour	152
" " posts of employment limited by the demand for labour	158
Law of equal inheritance in France, its operation	197
Law affecting the man who contemplates marrying	150
" of marriage affecting inheritance cannot be evaded	91
" " acts in nature to preserve specific characters and extinguish individual variations	92
Lengthening of the average life in European countries	134
" " " not due to decrease of infant mortality	135
Lioness in confinement must bring forth in darkness	32
" " Faimali's statement as to effect of light intruding on	32
Luxury maintains the more highly paid forms of skilled labour	149

	PAGE
Male and female cats, their behaviour when latter nearing delivery	22
„ cat devours young of female	21
„ domestic rabbit, guinea pig, and boar	25
„ ferret, anecdote of	24
„ tigers	24
Males of all prolific species removed from cages when females pregnant	34
Malthus, his principle that population increases faster than the food supply	116
„ his positive checks	130
„ practically eliminates check of moral restraint	131
„ moral aspect of his theory	132
„ effect of his theory upon Pitt	134
Man differentiated from the lower animals	231
„ an imperfect being advancing to a remote ideal	232
Mankind entering into larger consciousness of its solidarity	201
Marriages limited by labour demand	159
Mediæval Europe, its insanitary conditions	141
Men marry as soon as they are able	153
Military situation of Europe to-day, an evanescent phase	206
Mill's fanciful description of French peasant proprietor	195
Mundane history of man, three stages	223
Natural Selection in progress, incapable of being observed or traced	72
„ „ cannot be Nature's evolutionary principle	73
„ „ cannot pair similarly varied individuals through successive generations	90
Nature's arrangement to supplant unimprovable by civilised races	227
„ method of elimination meant to avert a cruel struggle for existence	19-20
„ „ „ painless and congruous to nature of the species	23
„ „ „ prevails in the vegetable kingdom	20
„ „ „ reconciles the phenomena of feral life with observation	26
Nature cannot isolate her similarly varied individuals, why	86
„ shows few traces of her footsteps in her evolutionary march	80
Nature's productions far truer than man's, why	85
Nineteenth century inaugurates a new era	200

	PAGE
Paul's, St., conception of society as a mutually interdependent organism	237
Pauperism, decrease of, in the United Kingdom	228
Peace, reign of	223
Pessimistic view of Nature since publication of <i>Origin of Species</i>	47
Policy of protection, effect on industries of Germany	188
Population of each wild species remains normally at same point	17-18
Positive checks of Malthus, greatly curtailed since his day	134
Practical science, why it is progressive	7
Preparation of the world for the advent of man	220
Prevailing comity among the larger carnivora	9
Principle of selection used by man cannot be used by Nature	69
Professional classes, competition among	242
Progress made since beginning of the nineteenth century	204
Prolific species, their power of recuperating losses	56
Rabbit, cause of increase in Australia	59
,, domestic	25
Rat and weasel	24
Recuperative power of prolific species	56
Registration Act in Ireland, effect of its stringent application	170
Reserve of young men always sufficient for labour supply of a community	165
Reversion not a happy term to express appearance of generic markings	104
Romanes, Dr., his attempt to prove operation of Natural Selection	77
Rudimentary forms	79
Russian vital statistics furnished to Malthus	172
Severity of struggle for existence defined by Darwin	4
Similarly varied individuals can rarely copulate in Nature	89
Skilled labour, the more highly paid kinds maintained by luxury	149
Solidarity of mankind, men entering into larger consciousness of it	201
Specific characters only employed by Nature in modifying her forms	83
,, fixity cannot be given by man to his breeds	83
Spiritual nature destined to predominate man's animal inheritance	219
Stages, three, of development in mundane history of man	223
Standing armies, how they affect the labour market	167

	PAGE
Struggle for existence averted by Nature's method of elimination	5
„ „ as Darwin defines it, what would happen if it were realised	48
Successful men advance civilisation and elevate the general standard of living	240
Sufficient subsistence for a married life, how determined	150
Surplus population never arises from numbers increasing faster than food supply	226
Survival of the average, result of Nature's method of elimination	43
„ of the fittest not in the arrangements of Nature	43
Sweden and Norway, effect of industrial depression	184
 Tigers, battle between two	 24
Tramps and vagrants	230
 Varietal forms, characteristic of	 79
Vegetivorous animals born for two ends	8
Vice and misery of great cities not due to labour market nor social arrangements	233
Vicissitudes of business and mutability of fortune, misery entailed by	245
 Weaker, the, do not go to the wall in the competition of life	 238
Wealth inherited or acquired, how it promotes industry and maintains labour	147
Wolf, the male, when admitted to the female assists in feeding the cubs	42
 Young men, always a sufficient reserve for supply of the labour market	 164

INDEX TO TABLES OF VITAL STATISTICS

	PAGE
Table I. Showing difference between the average life-terms of different European nations	138
„ II. Showing fall of the death-rate in England and Wales among children under five years of age compared with fall in the general mortality	139
„ III. Showing high average life-terms in the Australasian Colonies	143
„ IV. Showing, of 1000 males who marry in each class, the proportional number who marry at each of three ages, among miners, factory hands, etc.	157
„ V. Showing the three highest death-rates of Europe, viz., those of Russia, Hungary, and Roumania, contrasted with the two lowest, viz., those of Sweden and Norway	173
„ VI. Death-rate and birth-rate of Russia, Hungary, and Roumania compared with death-rate and birth-rate of other European countries	175
„ VII. Annual number of deaths and births per 10,000 in England and Scotland decennially since 1864	179
„ VIII. Annual number of marriages, deaths, and births in Norway since 1871	180
„ IX. Annual number of marriages, deaths, and births in Sweden since 1854	181
„ X. Population of Prussia, natural and actual increases, decennially since 1874	186
„ XI. Marriages, deaths, and births in 10,000 persons in Prussia since 1864	186
„ XII. Marriages, deaths, and births in 10,000 persons in the Netherlands since 1854	189
„ XIII. Marriages, deaths, and births in 10,000 persons in Belgium, showing also the birth-rate declining in relation to the marriage-rate	193

Printed by
MORRISON & GIBB LIMITED
Edinburgh

Charles Scribner's Sons'



atalogue of the

Publications

of

T. & T. Clark, Edinburgh.

The London SPECTATOR says: 'We may highly commend anything, periodical or other, that comes out from the publishing house of T. & T. CLARK, EDINBURGH.'

MESSRS. CHARLES SCRIBNER'S SONS,
SOLE AGENTS IN THE UNITED STATES for the
above well-known house, invite the attention of
the Trade and the Public to the subjoined List
of valuable Books, embracing the widest range
of sound and useful Theological and Philo-
sophical Thought and Discussion.

Charles Scribner's Sons,
153, 155, & 157 FIFTH AVENUE, NEW YORK CITY.

LATEST ISSUES.

NEW WORKS OF SPECIAL IMPORTANCE.

In the Press, in One Volume, 8vo, price \$2.00.

The Authority of Christ. By DAVID W. FORREST, D.D.,
Author of 'The Christ of History and of Experience.'

While all Christians acknowledge the authority of Christ as final, there is a wide diversity of opinion with reference to what it really covers and the right method of construing it. The purpose of this book is to inquire as to the sphere in which Christ's authority operates, and as to its character within that sphere.

In the Press, in Two Volumes, post 8vo, price \$3.50.

The Knowledge of God. The Gifford Lectures. By Professor
H. M. GWATKIN, D.D., Cambridge.

James: The Brother of Our Lord. By Principal W. PATRICK, D.D.,
Winnipeg. Post 8vo. Nett \$3.00

This volume treats the life of James the Lord's brother with the fulness and thoroughness which its importance demands, and thus makes a contribution to the settlement of some of the most difficult problems belonging to the history of the primitive Church.

**The New Reformation: Recent Evangelical Movements in the
Roman Catholic Church.** By Rev. JOHN A. BAIN. Post 8vo.

Nett \$1.50

The intensely interesting and important religious movements in Roman Catholic countries at the present time are here described.

Primitive Christian Education. By G. HODGSON, B.A.
(T.C.D.), Lecturer on the History of Education, University College,
Bristol. Square crown 8vo. Nett \$1.50

A work greatly needed by all interested in education; discussing the attitude of the early Christian Church to education.

A Grammar of New Testament Greek. By JAMES HOPE
MOULTON, D.Litt. Vol. I. THE PROLEGOMENA. Demy 8vo.

Nett \$3.50

No other grammar gives an adequate record of those wonderful discoveries of Greek papyri, which within the last few years have altered the entire basis of the study of New Testament Greek.

The Religion and Philosophy of India. The Upanishads.
By Professor P. DEUSSEN, University of Kiel. Translated by
Professor A. S. GEDEN, M.A. Demy 8vo. Nett \$3.50

The Growth of Christian Faith. By Rev. GEORGE FERRIES,
D.D., Cluny. Demy 8vo. Nett \$2.50

The Gift of Tongues, and other Essays. By DAWSON WALKER,
D.D., Durham University. Post 8vo. Nett \$1.50

The Christian Doctrine of the Lord's Supper. By
Rev. ROBERT M. ADAMSON, M.A., Ardrossan. Square crown 8vo.

Nett \$1.50

'A scholarly, large minded and trustworthy statement of a great religious and Christian theme.'—*Christian World*.

**The Religious Doubts of Common Men: The Duty of the
Christian Churches to their Members.** By a LAYMAN.

THE SCHOLAR AS PREACHER.

These volumes are carefully chosen. They are chosen because their authors are scholars as well as preachers, for the suggestiveness of their thought, and because they are saturated with the most promising ideas of the present day.

The Eye for Spiritual Things. By H. M. GWATKIN, D.D., Cambridge. Post 8vo. Nett \$1.50

Faith and Knowledge. By the Rev. W. R. INGE, D.D., Hertford College, Oxford. Second Ed. Post 8vo. Nett \$1.50

'The volume is one which is likely to be especially helpful to preachers, as giving them fresh materials for thought.'—*Guardian*.

'The thought is always lucid and well arranged, and the pages hold the interest with ease. The book is a contribution of value to the storehouse of faith.'—*Watchman*.

Christus in Ecclesia. By the Rev. HASTINGS RASHDALL, D.C.L., New College, Oxford. Now ready, post 8vo. Nett \$1.50

'A book which should prove very useful to the inquiring student.'—*Oxford Review*.

Bread and Salt from the Word of God. In Sixteen Sermons. By Professor THEODOR ZAHN, University of Erlangen. Post 8vo. Nett \$1.50

'We fear that Dr. Zahn's reputation as a scholar is not as widespread in England as it should be, although the University of Cambridge has conferred upon him an honorary degree. This is due, no doubt, to our insular backwardness in the acquiring of other languages. . . . The chief reason why we desire to bring the sermons within the reach of English readers, is rather that they may see for themselves how exact and profound learning is compatible with a spirit of childlike reverence and humility, a directness of speech in rebuke of prevalent ungodliness, an ardour of devotion to Christ as the One Master, and to the leading of the Holy Spirit, which are thoroughly in accord with the teaching of the Apostles, and of the Primitive Church.'—From the TRANSLATOR'S Preface.

BY THE REV. ALFRED PLUMMER, D.D.

'To see what can be done in the way of making the history of the Church attractive reading, to see what can be done in the way of making the reading of Church History thoroughly profitable, read these books.'—EXPOSITORY TIMES.

English Church History. From the Death of King Henry VII. to the Death of Archbishop Parker. Four Lectures by the Rev. ALFRED PLUMMER, D.D. Crown 8vo. Just Published. Nett \$1.00

English Church History. From the Death of Archbishop Parker to the Death of King Charles I. Four Lectures. By the Rev. ALFRED PLUMMER, D.D., late Master of University College, Durham. Crown 8vo. Nett \$1.00

'The treatment is succinct, dispassionate, and fair, the style is clear and strong; and this volume will form a useful introduction to the study of the period.'—*London Quarterly Review*.

The Life Everlasting: Studies in the Subject of the Future. By DAVID PURVES, D.D., Belfast. Crown 8vo. Nett \$1.50

Prof. MARCUS DODS writes: 'I have read Dr. Purves' "The Life Everlasting" with great satisfaction, and mean to read it a second time. I think he shows great capacity for dealing with doctrinal points. At the present time there is considerable interest—as indeed there always is—in immortality, and I know of no treatment of the subject at once so full and so compact, so well informed and so temperate, sane and convincing.'

The Creation of Matter; or, Material Elements, Evolution, and Creation. By Rev. W. PROBERT, M.A. Second Edition. Crown 8vo. Nett \$1.00

'A storehouse of information, takes cognisance of the most recent discoveries. Packed with thought, but there is no obscurity. A timely and able volume.'—*Methodist Recorder*.

Now Complete, IN FIVE VOLUMES

(Including the **EXTRA** Volume, which contains important **Articles** and full **Indexes** to the entire Work).

'In its five volumes we possess a splendid—nay, an unsurpassed—
thesaurus of biblical learning.'—*Record*.

Dictionary of the Bible

Dealing with

Its Language, Literature, and Contents,

Including the Biblical Theology.

WITH MAPS AND ILLUSTRATIONS.

Edited by JAMES HASTINGS, M.A., D.D.

With the Assistance of JOHN A. SELBIE, M.A., D.D.

Price, bound in cloth, \$6.00 per Volume; in half-morocco, \$8.00 per Volume.

This great work has taken its place, as 'The Times' says, as 'the standard authority for biblical students of the present generation.' In this country and America, in the Colonies, and even among people of other languages and of various creeds, it is in constant and increasing demand.

'A new encyclopædia, if it be what it should be, is a new treasure for either a public or a private library. . . . Such is the recent advance in all the studies pertaining to the origin, contents, and interpretation of the Holy Scriptures, the documents of the Christian religion, that the "Dictionary of the Bible," of which the first volume has just been issued, ministers to a real want, and it promises to minister to it well. . . . Of this first volume of the "Dictionary," as a whole, it can be truly said that it compresses into a moderate space the results of a vast amount of investigation by scholars of whom this at least can be affirmed: that they are candid, and well equipped for their work.'—Professor G. P. FISHER, D.D., in the *Book Buyer*.

'The need of a new "Dictionary of the Bible" has been made imperative by recent rapid advancement in Egyptology and Assyriology, as well as by the increasing prevalence of revolutionary methods of biblical criticism. . . . The first volume shows us a beautifully printed page, with type which is at once clear and capable of compressing a large amount of material into a given space. . . . A specially commendable feature of the work is the careful attention given to the shorter articles. Even where they are of a few lines, they have been prepared by the highest authority, and are duly signed. The contributors include a large number of the ripest and most trusted scholars of Great Britain and America, with an occasional one from Germany.'—*Bibliotheca Sacra*.

*** * Full Prospectus, with Specimen Pages, free on application to the
Publishers.**

Now ready, in One Volume, demy 8vo, price **\$3.00** nett,

Bible Studies. Contributions, chiefly from Papyri and Inscriptions, to the History of the Language, Literature, and Religion of Hellenistic Judaism and Primitive Christianity. By Dr. G. ADOLF DEISSMANN, Professor of Theology in the University of Heidelberg. *Authorised Translation* (incorporating Dr. DEISSMANN'S most recent changes and additions) by Rev. ALEX. GRIEVE, M.A., Ph.D.

NOTE.—In addition to the supplementary matter specially contributed by the Author, the translation shows considerable alterations in other respects. Not only has the later volume, 'Neue Bibelstudien,' found a place in this edition, but the order of the Articles has, at the Author's request, been completely changed. The Indexes have been combined, and an Index of Scripture Texts has been added. The English translation is therefore virtually a new work.

'In every respect a notable book. . . . As to its value there can be no hesitation about the verdict. . . . Words, syntax, and ideas can all be tested over again by a completely new apparatus of study, the lexicon of the New Testament can be enriched, the grammar re-written, and the theology re-vivified and humanised.'—Dr. J. RENDEL HARRIS in the *Examiner*.

In One large Volume 8vo, price **\$4.00** nett,

Justification and Reconciliation. By ALBRECHT RITSCHL. Edited by H. R. MACKINTOSH, D.Phil., and A. B. MACAULAY, M.A.

'Dr. Mackintosh and his coadjutors have earned the gratitude of all theological students in this country. . . . The present translation meets one of the most urgent wants of the hour. Now the great systematic work of Ritschl is open to all.'—Prof. J. DENNEY, D.D.

Sixth Edition, Revised throughout, in post 8vo.

The Miracles of Unbelief. By Rev. FRANK BALLARD, M.A., B.Sc., London. Nett **\$1.00**

'Written by an expert in science as well as theology, a fair-minded man who faces religious difficulties, not ignores them, and one who knows how to reason out his case like an accomplished advocate, without pressing it like an unscrupulous one. Mr. Ballard has rendered valuable service to the cause of Christian truth, and given us an excellent and useful book, deserving a large circulation.'—Professor W. T. DAVISON, in the *Methodist Recorder*.

'It is a perfect mine of quotation for men with little time for study, who are called, as modern ministers are, to be not only visitors and workers but also preachers and teachers.'—*Guardian*.

The Relation of the Apostolic Teaching to the Teaching of Christ. By Rev. ROBERT J. DRUMMOND, D.D. Edinburgh. Second Edition. 8vo. Nett **\$3.50**

'No book of its size has taken such a hold of us for many a day. . . . It is a strong hook, the book of a scholar and thinker, fearless, yet reverent, new and yet built on a solid foundation of faith and experience.'—*Expository Times*.

Christian Character. By Professor T. B. KILPATRICK, D.D. Crown 8vo. Nett **\$1.00**

CONTENTS:—Part I. The Importance of Character—The Sources of Christian Character—Its Culture: Physical and Mental Powers; Moral Powers. Part II. Character and Conduct—The Family—The Work of Life—Social Relations—The State—The Church—Concluding Remarks.

'Throughout the exposition is clear and intelligible, and the book is written in an interesting and attractive style. It forms a valuable contribution to the study of Christian Ethics, and should be in the hands of all who have to do with the moulding of character and the guidance of conduct.'—*Methodist Times*.

The Christ of History and of Experience. By
DAVID W. FORREST, D.D. 8vo. Nett \$2.00

'The subject has been opened up most admirably in the series of topics which form the subject of the nine chapters. . . . The volume as a whole deserves most serious attention. . . . Many of its discussions, like that of miracles, and the relation of Messiahship and Sonship, are admirable.'—*Biblical World* (Chicago).

The Historical New Testament: Being the Literature of the New Testament arranged in the order of its Literary Growth and according to the Dates of the Documents. A new Translation, Edited, with Prolegomena, Historical Tables, Critical Notes, and an Appendix, by JAMES MOFFATT, B.D. Second Edition, in One large 8vo Vol. Nett \$4.50

In the preparation of the Translation the Author has had the valuable assistance of Professor DENNEY, Dr. H. A. A. KENNEDY, Professor MARCUS DODS, Rev. Canon GREGORY SMITH, Professor WALTER LOCK, and the Rev. LL. M. J. BEBB.

'The most important book on the credentials of Christianity that has appeared in this country for a long time. It is a work of extraordinary learning, labour, and ability.'—*British Weekly*.

The Pauline Epistles. Introductory and Expository Studies. By R. D. SHAW, D.D., Edinburgh. Second Ed. 8vo. Nett \$3.50

'A careful and very valuable study of the writings of the great apostle.'—*Interior*.

'Of all the Introductions to St. Paul's Epistles I have read, this is the best.'—*Methodist Times*.

'A thoroughly good and useful book.'—*Guardian*.

'This book is as genuine a surprise as we have had for many a day. Clearly Dr. Shaw is one of the youngest men of whom the Scottish Churches are so proud—steeped in the literature of the subject he has chosen to write upon, and strong enough to handle it with refreshing candour, and yet concerned always and most entirely to reveal the treasures of wisdom and knowledge which the Pauline Epistles contain.'—*Expository Times*.

Hebrew Ideals from the Story of the Patriarchs. By the Rev. JAMES STRACHAN, M.A., London.

PART I. GEN. 12 TO 25. Price \$.60. PART II. GEN. 25 TO 50. Price \$.60.

* * * *The Two Parts can now be had bound in One Volume.* Nett \$1.00.

'This volume is exactly the thing we wanted. It is one of the freshest and most illuminative books on Genesis we have seen. As a mirror of manners and ideals to make life worthy, it is altogether unique. . . . The book is written in delightful English, piquant and crisp, and the surprises of its style make it easy reading.'—*Critical Review*.

A Primer on Teaching. With Special Reference to Sunday School Work. By JOHN ADAMS, M.A., B.Sc., Professor of Education in the University of London. Nett 20 cents

CONTENTS:—Child Nature—Ideas—Attention and Interest—Class Management—Use of Language—Method in Teaching—The Socratic Method—Questions and Answers—Illustrations.

'Extremely readable and suggestive, clear as the light.'—*Sunday School Chronicle*.

A Dissertation on the Gospel Commentary of S. Ephraem the Syrian. With a Scriptural Index to his Works. By J. HAMLYN HILL, D.D. 8vo. Nett \$2.25

The BISHOP of GLOUCESTER and BRISTOL writes: ' . . . It is a monument of patient research and intelligent industry, which deserves very hearty recognition.'

The Oldest Code of Laws in the World. The Code of Laws promulgated by HAMMURABI, King of Babylon, B.C. 2285–2242. Translated by C. H. W. JOHNS, M.A., Lecturer on Assyriology, Queens' College, Cambridge. Crown 8vo. Nett 75 cents

'A little book but one of great value.'—*Interior*.

Comparative Religion: Its Genesis and Growth. By the Rev. LOUIS H. JORDAN, B.D., late Special Lecturer on Comparative Religion at the University of Chicago. With Introduction by the Rev. Principal FAIRBAIRN, D.D., Oxford. 8vo. Nett \$3.50

* * The Volume contains an exceptionally full and carefully prepared Index; and also several Coloured Charts giving a Comparative View of the present numerical strength, and of the Territorial Distribution, of the Principal Religions.

'A most excellent and painstaking monograph. Clear in argument, full in information.'—Principal A. M. FAIRBAIRN, D.D.

'Comparative Religion is with us now. Of that there is no longer any doubt. This handsome volume is itself the unmistakable evidence. . . . Mr. Jordan has that spark of life which responds to our more popular conception of genius. His enthusiasm carries him from page to page, down through many notes, and even to the end of model Indexes.'—*Expository Times*.

By Nile and Euphrates. A Record of Discovery and Adventure. By H. VALENTINE GEERE. Nett \$3.50

'Mr. Geere, a member of the staff of the Babylon expedition sent out by the University of Pennsylvania, gives many interesting pictures of life and work while in the pursuit of archaeological finds, describes the people and country of the Euphrates and Tigris, and sketches some of the out-of-the-way places in that unfrequented region.'—*Bulletin of the American Geographical Society*.

'Mr. Geere's volume makes fascinating reading.'—*Pall Mall Gazette*.

The Religions of Ancient Egypt and Babylonia.

The Gifford Lectures on the Ancient Egyptian and Babylonian Conception of the Divine. By A. H. SAYCE, M.A., LL.D., Professor of Assyriology, University of Oxford. 8vo. Nett \$3.50

'Those who are interested in comparative religion will find this latest work of a distinguished Orientalist most valuable. Sympathetic appreciation and discriminating criticism are in these lectures felicitously joined.'—*New York Outlook*.

'Extremely interesting. . . . One can have no guide in these complex subjects more learned or more considerate to his readers' difficulties than Professor Sayce. He always writes from the amplest knowledge, and he always writes clearly.'—*Spectator*.

The Fatherhood of God in Christian Truth and Life. By the Rev. J. SCOTT LIDGETT, M.A. 8vo. Nett \$3.00

This book is an attempt to establish the Fatherhood of God as the determining fact of Christian life and the determining principle of Christian Theology. Among the subjects dealt with are: The New Testament Doctrine of the Fatherhood of God. Place in New Testament Theology. The Relation of the Old Testament Doctrine to the Fatherhood of God. The Doctrine in Church History. Validity and Content. Manifestation.

'The work of a devout and vigorous Christian thinker. It is well planned and arranged, and clear in style and diction, more constructive than critical, more expository than controversial in its method.'—*Interior*.

The Times of Christ. By LEWIS A. MUIRHEAD, D.D. With Map. New and Revised Edition. Crown 8vo. Nett 60 cents

'One of the very best of the handbooks for Bible classes—and that is saying a great deal. There is evidence on almost every page of exact and ample scholarship. Yet Dr. Muirhead is never dry; his chapters are always luminous and readable. This is certain to prove a most useful text-book.'—*Sunday School Chronicle*.

The Sacraments in the New Testament. By Rev. J. C. LAMBERT, D.D. 8vo. Nett \$3.50

'A real contribution. It is the book to which one can turn for a fresh, careful, truthful, lucid interpretation of the Sacraments.'—*Biblical World* (Chicago).

'Will, without doubt, come to be regarded as a classic work upon the Sacraments.'—*Methodist Times*.

Outlines of the Life of Christ. By W. SANDAY, D.D., LL.D., Litt.D., Lady Margaret Professor and Canon of Christ Church, Oxford. Post 8vo. Nett \$1.25

Although this book is, in the main, a reprint of Dr. Sanday's well-known article, 'Jesus Christ,' in Dr. Hastings' Bible Dictionary, the Author has worked carefully over the material, and has broken up the text into Chapters and Sections. An important new Map of Palestine is added.

'The most unconventional and illuminating of all extant works of the kind. We recommend this issue to our readers as the best modern work on the life of our Lord.'—*Methodist Times*.

The Spirit and the Incarnation. In the Light of Scripture, Science, and Practical Need. By the Rev. W. L. WALKER. Second Edition, Revised and Re-set. Demy 8vo. Nett \$3.00

In a leading article, headed '**A GREAT BOOK**,' in the *British Weekly*, Professor MARCUS DODS writes: 'It may be questioned whether in recent years there has appeared, at home or abroad, any theological work more deserving of careful study. He who intelligently reads it once will inevitably read it again and again.'

The Cross and the Kingdom, as Viewed by Christ Himself and in the Light of Evolution. By the Rev. W. L. WALKER, Author of 'The Spirit and the Incarnation.' 8vo. Nett \$3.00

This book is intended as a defence and restatement of the Evangelical doctrine of the Cross based on the teaching of Christ in the first three Gospels, and on His work as the Founder of the Kingdom of God.

'We desire to speak with admiration of the good work done in this book. It is worthy to stand beside his former treatise. Taking both together, they form a magnificent contribution to the theological literature of the age.'—Professor IVERACH in the *Expository Times*.

The Ritschlian Theology. Critical and Constructive: An Exposition and an Estimate. By the Rev. A. E. GARVIE, M.A. (Oxon.). 8vo. Nett \$3.00

'Mr. Garvie's grasp of the subject is unsurpassed. . . . Nothing could be clearer or, indeed, more fascinating in theological writing than this.'—*Expository Times*.

'Ritschlian literature is permanently enriched by this publication.'—*British Weekly*.

'The weightiest, warmest, and fairest work in English on its subject.'—Dr. P. T. FORSYTH in the *Speaker*.

The Trial of Jesus Christ: A Legal Monograph. With Two Illustrations. By A. TAYLOR INNES, Advocate. Post 8vo. Nett \$1.00

This twofold transaction, the most famous occasion on which two great systems of law, the Hebrew and the Roman, crossed each other, is described as thus presenting 'probably the most interesting isolated problem in historical jurisprudence.'

'Mr. Innes gives what to most of his readers will be wholly new light and fresh thoughts . . . This volume is a striking example of the value of the critical examination of historical problems by an accomplished lawyer.'—*Times*.

The Theology of the Epistle to the Hebrews. With a Critical Introduction. By Rev. GEORGE MILLIGAN, B.D. In post 8vo. Nett \$2.00

'Any book with the name of Milligan upon it is sure of a ready welcome. . . . We can unreservedly recommend this volume as a sensible as well as a fertilising study of the outward features, but especially the inner thought, of this great Epistle.'—*Expository Times*.

The Christian Salvation. Lectures on the Work of Christ: Its Appropriation and its Issues. By Prof. J. S. CANDLISH, D.D. Demy 8vo. Nett \$2.25

'They deal with five great subjects: the Work of Christ, the Doctrine of the Church, the New Life, the Sacraments, and Eschatology. In each case we have a treatise on the subject, lucid, connected, and fairly complete.'—*Expository Times*.

The World's Epoch=Makers.

EDITED BY OLIPHANT SMEATON, M.A.

NEW SERIES. IN NEAT CROWN 8VO VOLUMES. PRICE \$1.25 EACH.

'An excellent series of biographical studies.'—*Athenæum*.

'We advise our readers to keep a watch on this most able series. It promises to be a distinct success. The volumes before us are the most satisfactory books of the sort we have ever read.'—*Methodist Times*.

The following Volumes have now been issued:—

- | | |
|--|---|
| Buddha and Buddhism. By ARTHUR LILLIE. | Pascal and the Port Royalists. By Professor W. CLARK, LL.D., D.C.L., Trinity College, Toronto. |
| Luther and the German Reformation. By Principal T. M. LINDSAY, D.D. | Euclid. By Emeritus Professor THOMAS SMITH, D.D., LL.D. |
| Wesley and Methodism. By F. J. SNELL, M.A. | Hegel and Hegelianism. By Professor R. MACKINTOSH, D.D., Lancashire Independent College, Manchester. |
| Cranmer and the English Reformation. By A. D. INNES, M.A. | Hume and his Influence on Philosophy and Theology. By Professor J. ORR, D.D., Glasgow. |
| William Herschel and his Work. By JAMES SIME, M.A. | Rousseau and Naturalism in Life and Thought. By Professor W. H. HUDSON, M.A. |
| Francis and Dominic. By Professor J. HERKLESS, D.D. | Descartes, Spinoza, and the New Philosophy. By Principal J. IVERACH, D.D., Aberdeen. |
| Savonarola. By G. M'Hardy, D.D. | Socrates. By Rev. J. T. FORBES, M.A., Glasgow. |
| Anselm and his Work. By Rev. A. C. WELCH, B.D. | |
| Origen and Greek Patristic Theology. By Rev. W. FAIRWEATHER, M.A. | |
| Muhammad and his Power. By P. DE LACY JOHNSTONE, M.A. (Oxon.). | |
| The Medici and the Italian Renaissance. By OLIPHANT SMEATON, M.A., Edinburgh. | |
| Plato. By Professor D. G. RITCHIE, M.A., LL.D., University of St. Andrews. | |

The following have also been arranged for:—

- | | |
|--|---|
| Marcus Aurelius and the Later Stoics. By F. W. BUSSELL, D.D., Vice-Principal of Brasenose College, Oxford. <i>[In the Press.]</i> | Lessing and the New Humanism. By Rev. A. P. DAVIDSON, M.A. |
| Augustine and Latin Patristic Theology. By Professor B. B. WARFIELD, D.D., Princeton. | Kant and his Philosophical Revolution. By Professor R. M. WENLEY, D.Sc., Ph.D., University of Michigan. |
| Scotus Erigena and his Epoch. By Professor R. LATTA, Ph.D., D.Sc., University of Aberdeen. | Schleiermacher and the Rejuvenescence of Theology. By Professor A. MARTIN, D.D., New College, Edinburgh. |
| Wyclif and the Lollards. By Rev. J. C. CARRICK, B.D. | Newman and his Influence. By C. SAROLEA, Ph.D., Litt. Doc., University of Edinburgh. |
| The Two Bacons and Experimental Science. By Rev. W. J. COUPER, M.A. | |

The Note-Line in the Hebrew Scriptures. Commonly called PĀSĒq or PĒsīq. By JAMES KENNEDY, D.D., New College, Edinburgh. Post 8vo. **Nett \$1.75**

This treatise is the result of a special inquiry, subsidiary to more extensive research into the Hebrew text of the Old Testament. Careful examination led to the conclusion that the line must have been purposely placed beside remarkable readings in the Hebrew Bible. A survey has been made of the entire Scriptures, and the conclusions are now placed before students of the Old Testament as a contribution towards a better understanding of certain phenomena presented in the Massoretic texts.

'Dr. Kennedy, with a delightful avoidance of pedantry, has given an example of the patient, careful, unobtrusive work of which so much must be done before the text of the Old Testament can be satisfactorily restored. If, as seems probable, the "Note-line" does frequently indicate error, it will be a valuable guide to the textual critic.'—*Church Quarterly Review*.

The Gospel according to St. John: An Inquiry into its Genesis and Historical Value. By Professor H. H. WENDT, D.D., Author of 'The Teaching of Jesus.' Demy 8vo. **Nett \$2.50**

'A searching and discriminative criticism.'—*Speaker*.

'An important contribution to the study of the problems of the Fourth Gospel.'—*Critical Review*.

A Short History of the Westminster Assembly. By the Rev. W. BEVERIDGE, M.A., of New Deer. Crown 8vo. **Nett \$1.00**

The Author has worked up this History from original documents, and has had it in preparation for several years. In view of the present crisis of the Churches in Scotland, the book will be found of special interest, as the Author, more particularly in the chapters on the Westminster 'Confession,' has had before him the decision of the House of Lords in the Free Church Appeal Case. Mr. Beveridge is well known as an authority upon the subject of his book.

'A volume full of valuable information and casting much light on the far-reaching questions at present occupying the mind of the Scottish people.'—*Critical Review*.

Apostolic Order and Unity. By ROBERT BRUCE, M.A., D.D., Hon. Canon, Durham. Crown 8vo. **Nett \$1.00**

'As Christian in tone as it is scholarly in its treatment of the subject.'—*Examiner*.

The Testament of Our Lord. Translated into English from the Syriac, with Introduction and Notes, by JAMES COOPER, D.D. Professor of Ecclesiastical History in Glasgow University; and the Right Rev. A. J. MACLEAN, D.D., Bishop of Moray and Ross. 8vo. **Nett \$3.00**

'Excellently conceived and well executed, and the information given is unique in its way.'—*Living Church*.

'In making the work known, the Editor has done considerable service to the study both of ecclesiastical history and of liturgy. It is a real service, which deserves the gratitude of scholars.'—*Guardian*.

The *Testament* possesses the special interest of being the production of the very period when the great transition in the Church's fortunes, from Imperial persecution to Imperial favour, was leading to the inevitable transformation of her buildings and her services to suit her altered circumstances. . . . The *Testament* reflects this state of things as a mirror. It vibrates, moreover, with the pulsation of the great controversies through which the Church was passing. The volume is thus far more than a mere antiquarian curiosity. It had a message to its own time; it has a message to all time, and very distinctly to the time now present. The *Testament* is also a veritable mine at once of devotional expression and liturgical lore.

The Pentateuch in the Light of To-day. Being a simple Introduction to the Pentateuch on the Lines of the Higher Criticism. By ALFRED HOLBORN, M.A. Second Edition. Crown 8vo. Nett 75 cents

'Eminently serviceable for a reconstruction of traditional views upon the only ground now tenable for faith in a divine revelation to ancient Israel.'—*Outlook*.

The Words of Jesus. Considered in the Light of Post-Biblical Jewish Writings and the Aramaic Language. By Professor G. DALMAN, Leipzig. *Authorised English Translation* by Professor D. M. Kay, St. Andrews. Post 8vo. Nett \$2.50

'A very exhaustive study, and deserves attention as an example of searching method and cautious scholarship.'—*Living Church*.

'The most critical and scientific examination of the leading conceptions of the Gospels that has yet appeared.'—Prof. W. SANDAY, LL.D.

'He who does not know that Dalman is necessary, does not know much yet about the study of the New Testament in Greek.'—*Expository Times*.

'Absolutely indispensable to the understanding of the New Testament.'—*British Weekly*.

Selections from the Literature of Theism. Some Principal Types of Religious Thought. With Introductory and Explanatory Notes. By Prof. ALFRED CALDECOTT, M.A., D.D., King's College, London, and Prof. H. R. MACKINTOSH, M.A., D.Phil., Edinburgh. Post 8vo. Nett \$2.50

This volume has been prepared with the aim of bringing together within a small compass some of the leading positions in the philosophy of religion. It is agreed on all hands, in our day, that no one, except here and there an original genius, can expect to be in line with twentieth-century thought who dispenses himself from reference to the positions held by great minds. It is by training his mind in their high thoughts that he can expect to win power and insight for himself.

'Will meet a very wide felt want by bringing within the reach of ordinary book-buyers full summaries of the treatises of the great leaders of thought who have written upon Theism.'—*Bibliotheca Sacra*.

'Who would ever have expected so beautiful and delightful a book with such an unpretending and commonplace title? . . . Those are the passages which make Descartes, Spinoza, Martineau, Janet live; and those passages, interpreted as they are interpreted here, make the study of the doctrine of God, even in its philosophical side, alive and practical for all men.'—*Expository Times*.

St. Paul and the Roman Law, and other Studies on the Origin of the Form of Doctrine. By W. E. BALL, LL.D. Post 8vo. Nett \$1.50

'Reverent and acute. . . We have said perhaps enough to show how varied and vital are the subjects of interest touched on in Dr. Ball's essays.'—*Churchman*.

'Dr. Ball has two rare gifts. He is a discoverer and a writer. . . Every discovery is made known by the same unconscious skill—the touch of nature.'—*Expository Times*.

The Religious Controversies of Scotland. By Rev. HENRY F. HENDERSON, M.A., Dundee. Post 8vo. Nett \$1.75

CONTENTS:—Prof. Simson's *Affair*—The Marrow Men—Hume's *Essay on Miracles*—The Playhouse Battle—An Ayrshire *New Light*—The Apocrypha Controversy—Edward Irving—The *Row Heresy*—The Rise of Morisonianism—The *Scotch Sermons*—Robertson Smith and the Higher Criticism—The *Dods-Bruce Case*.

This volume forms the first of a Series entitled 'Religion in Literature and Life.'

'We can remember no book devoted to the topic which Mr. Henderson handles with such ease and power. It has been read by us with genuine enjoyment and appreciation.'—Principal PATRICK, D.D.

New Testament Theology; or, Historical Account of the Teaching of Jesus and of Primitive Christianity according to the New Testament Sources. By Professor WILLIBALD BEYSCHLAG, Halle. Authorised Translation. Two Vols. 8vo. Nett \$6.00

'Dr. Beyschlag has achieved so large a measure of success as to have furnished one of the best guides to an understanding of the New Testament. . . . These pages teem with suggestions.'—*Methodist Recorder*.

The Teaching of Jesus. By Professor HANS HINRICH WENDT, D.D., Jena. Authorised Translation. Two Vols. 8vo. Nett \$5.00

'An admirable translation of the greatest systematic study of the teachings of Jesus thus far produced in Germany.'—*Biblical World* (Chicago).

'No greater contribution to the study of biblical theology has been made in our time. A brilliant and satisfactory exposition of the teaching of Jesus.'—Prof. J. IVERACH, D.D., in the *Expositor*.

Dr. R. F. HORTON refers to Beyschlag's 'New Testament Theology' and Wendt's 'Teaching of Jesus' as 'two invaluable books.'

Old Testament Theology. The Religion of Revelation in its Pre-Christian Stage of Development. By Professor HERMANN SCHULTZ, D.D., Göttingen. Authorised English Translation by Professor J. A. PATERSON, D.D. Two Vols. 8vo. Second Edition. Nett \$6.00

'A standard work on this subject may be said to be indispensable to every theologian and minister. The book to get, beyond all doubt, is this one by Schultz, which Messrs. Clark have just given to us in English. It is one of the most interesting and readable books we have had in our hands for a long time.'—Professor A. B. BRUCE, D.D.

The Truth of the Christian Religion. By Prof. KAFTAN, Berlin. Authorised Translation. With Prefatory Note by Professor FLINT, D.D. Two Vols. 8vo. Nett \$5.00

'Quite apart from the immediate question of obtaining a knowledge of the Ritschlian theology at first hand, these volumes are welcome. For Kaftan is no imitator, but a fertile and able writer. In the near future his view of theology, its essence and its accidents, will exercise a deep influence in our land.'—*Expository Times*.

History of the Jewish People in the Time of Our Lord. By Prof. EMIL SCHÜRER, D.D., Göttingen. Complete in Five Vols., with exhaustive Index. 8vo. Nett \$8.00

'This monumental work by Schürer has made all other histories almost superfluous. In no other account of the period is there to be found such wealth of learning and such admirable arrangement of material.'—*Biblical World* (Chicago).

'Recognised as the standard authority on the subject.'—*Critical Review*.

'Every English commentary has for some years contained references to "Schürer" as the great authority upon such matters. . . . There is no guide to these intricate and difficult times which even approaches him.'—*Record*.

The Ethics of the Old Testament. By W. S. BRUCE, D.D. Crown 8vo. Nett \$1.25

'An excellent work. . . . I have found it most interesting and instructive. I hope that the book may have the success which it well deserves.'—Prof. R. FLINT, D.D., LL.D.

The Formation of Christian Character: A Contribution to Individual Christian Ethics. By W. S. BRUCE, D.D. Crown 8vo. Nett \$1.50

'A book which combines with a scholarly grasp of the subject a popular gift of interpretation.'—*Examiner*.

'Altogether, this is a spiritually instructive, suggestive, and refreshing book. Ministers of the gospel will find the volume extremely helpful in the presentation of gospel truth in its ethical issues.'—*Interior*.

Lexicon Syriacum. Auctore CAROLO BROCKELMANN. Præfatus est TH. NÖLDEKE. In handsome Roxbürghe binding. Nett \$10.50

'The appearance of a new Syriac Lexicon, designed to meet the wants of students, is an event of considerable importance for the progress of Semitic studies at home and abroad. The work will be welcomed on all hands as fulfilling what has long been the most conspicuous *lacuna* in Semitic bibliography. . . . The publishers have earned, and will certainly receive, the thanks of every Semitic student for thus coming forward to remove what had almost become a scandal to international scholarship, the lack of a student's dictionary of a language so important to the philologist, the historian, and the theologian.'—A. R. S. KENNEDY, D.D. (Professor of Oriental Languages in the University of Edinburgh) in the *Expository Times*.

A Concordance to the Greek Testament. Edited by W. F. MOULTON, D.D. (Editor of the English Edition of *Winer's Grammar*), and Prof. A. S. GEDEN, M.A. In crown 4to (pp. 1040). Nett \$7.00

It is generally allowed that such a work is much needed in the interests of sacred scholarship. There exists no concordance whatever to the text of the Greek Testament as exhibited in modern critical editions. . . . The present work is a full and complete concordance to the text of the Greek Testament as it is set forth in the editions of WESTCOTT AND HORT, TISCHENDORF (8th), and the English Revisers.

'A Concordance which must displace all others, and which will remain for many a year the trusted companion of the student of the New Testament.'—*Critical Review*.

'I have no hesitation in saying that this work is one of the most important contributions to New Testament study that has been made during the present century. The need of such a work has long been felt by critical students. . . . The typographical execution of the work is beautiful. It will be a boon to all New Testament students, and must supersede all similar works.'—MARVIN R. VINCENT, D.D., Professor of Biblical Literature, Union Theological Seminary, N.Y.

Biblico - Theological Lexicon of New Testament Greek. By Prof. HERMANN CREMER, D.D., Greifswald. Authorised Translation. Demy 4to. Fourth Edition. Nett \$8.00

This Lexicon deals with words whose meaning in the Classics is modified or changed in Scripture, words which have become the bases and watchwords of Christian theology, tracing their history in their transference from the Classics into the LXX., and from the LXX. into the New Testament, and the gradual deepening and elevation of their meaning till they reach the fulness of New Testament thought.

'Dr. Cremer's work is highly and deservedly esteemed in Germany. It gives with care and thoroughness a complete history, as far as it goes, of each word and phrase that it deals with. . . . Dr. Cremer's explanations are most lucidly set out.'—*Guardian*.

'It is hardly possible to exaggerate the value of this work to the student of the Greek Testament. . . . The translation is accurate and idiomatic, and the additions to the later edition are considerable and important.'—*Church Bells*.

LOTZE'S MICROCOSMUS.

Microcosmus: Concerning Man and His Relation to the World. By HERMANN LOTZE. Translated from the German. In one large Vol. 8vo (1450 pp.). Nett \$5.00

'The English public have now before them the greatest philosophic work produced in Germany by the generation just past. The translation comes at an opportune time, for the circumstances of English thought, just at the present moment, are peculiarly those with which Lotze attempted to deal when he wrote his "Microcosmus" a quarter of a century ago. . . . Few philosophic books of the century are so attractive both in style and matter.'—*Athenæum*.

'These are indeed two masterly volumes, vigorous in intellectual power, and translated with rare ability. . . . This work will doubtless find a place on the shelves of all the foremost thinkers and students of modern times.'—*Evangelical Magazine*.

Pseudepigrapha: An Account of certain Apocryphal Sacred Writings of the Jews and Early Christians. By Rev. W. J. DEANE, M.A. Post 8vo. Nett \$2.00

'It is the most complete book on the subject in the English language, and contains the most ample information on these writings. It is indispensable to every scholar who wishes to be acquainted with this class of literature, and should occupy a place in the library of every theologian.'—PATON J. GLOAG, D.D.

Delivery and Development of Christian Doctrine. By
Principal R. RAINY, D.D., New College, Edinburgh. 8vo.

Nett \$3.00

'We gladly acknowledge the high excellence and the extensive learning which these lectures display. They are able to the last degree, and the author has, in an unusual measure, the power of acute and brilliant generalisation.'—*Literary Churchman*.

BY THE LATE PROF. A. B. DAVIDSON, D.D., LL.D., EDINBURGH.

'Whatever subject Prof. Davidson touched, there are always two epithets which may be applied to his treatment of it: it is masterly and it is judicial. No one had a better power of penetrating to the heart of a subject, no one was more skilful in the discovery of characteristics of an age, the drift of an argument, the aim of a writer. . . . His mastery of a subject was almost complete.'—CANON DRIVER.

An Introductory Hebrew Grammar, with Progressive Exercises in Reading and Writing. By the late Professor A. B. DAVIDSON, D.D., LL.D., New College, Edinburgh. Eighteenth Edition. 8vo.

Nett \$2.50

'A text-book which has gone into its tenth [now eighteenth] edition needs no recommendation here. . . . Certain changes, in the introduction of new examples and the enlargement of some parts where brevity tended to obscurity, will add to the already great merits and widely acknowledged usefulness of the book.'—*Critical Review*.

'The best Hebrew Grammar is that of Professor A. B. Davidson.'—*British Weekly*.

Hebrew Syntax. Third Edition. In demy 8vo.

Nett \$2.50

'The whole is, it is needless to say, the work of a master; but it is the work of a master who does not shoot over the learners' heads, one who by long experience knows exactly where help is most needed, and how to give it in the simplest and clearest fashion.'—*Methodist Recorder*.

Old Testament Prophecy. Edited by Prof. J. A. PATERSON, D.D. One large 8vo Volume.

Nett \$3.50

'This must long remain the standard work on Old Testament prophecy.'—Professor MARCUS DODS.

The Called of God. With Biographical Introduction by A. TAYLOR INNES, Esq., Advocate, and Portraits. Post 8vo.

Nett \$2.00

'The biographical introduction is admirable. . . . The sermons have thoughts that startle with their depth, they have passages that thrill us with their suppressed emotion.'—*Aberdeen Free Press*.

Waiting upon God. Post 8vo.

Nett \$2.00

'All through the book we meet with flashes of true insight and almost startling examples of that deep experimental knowledge of the human heart at its worst and its best, which is so characteristic of Davidson's preaching. . . . A striking book.'—*Glasgow Herald*.

The Epistle to the Hebrews. (*Handbook Series*.) Crown 8vo.

75 cents

'For its size and price one of the very best theological handbooks with which I am acquainted—a close grappling with the thought of the Epistle by a singularly strong and candid mind.'—Professor SANDAY in the *Academy*.

The Exile and the Restoration. With Map and Plan. (*Bible Class Primer Series*.)

Nett 20 cents

'A remarkable instance of Professor Davidson's gift of compressed lucid statement. . . . It may be safely said that nowhere within anything like the same narrow limits will one get so vivid a view of that period of Old Testament history.'—*Expository Times*.

The Christian Doctrine of Immortality. By Rev. S. D. F. SALMOND, D.D., Principal, and Professor of Systematic Theology, United Free Church College, Aberdeen. New and Cheaper Edition (the Fourth), Revised throughout and Re-set. Post 8vo. Nett \$3.00

'It is doubtful whether any book so wide and comprehensive in its scope, so thoughtful and faithful in its statements, so suggestive and quickening in its influence, so valuable in the contribution it makes to our knowledge and our faith respecting the ultimate fact of Immortality.'—*Presbyterian and Reformed Review*.

'This is beyond all doubt the one book on the transcendent subject of which it treats. There is none like it—sound, frank, fearless, and yet modest in every page.'—*Methodist Times*.

Life after Death and the Future of the Kingdom of God. By Bishop L. N. DAHLE, Knight of St. Olaf. Authorised Translation from the Norse. 8vo. Nett \$2.50

'A work of great ability. . . . He traverses the whole field with the utmost patience, thoroughness, learning, and candour, and, we venture to say, leaves no part of it without helpful illumination.'—Prof. J. ORR, D.D.

Forerunners of Dante: An Account of some of the more Important Visions of a Future Life from the Earliest Times. By MARCUS DODS, M.A., B.A. Crown 8vo. Nett \$1.50

This work presents a series of typical visions of Heaven, Purgatory, and Hell, beginning with Babylonian and Egyptian examples and ending in the European literature of the age of Dante, and exhibiting the gradual development of the ideas of punishment and reward in a future state.

'The author has gathered the conceptions of the future life, shown in visions and legends from the earliest dawn of Babylonian and Egyptian literature and the classical period of Greece and Rome down to the invention of St. Patrick's Purgatory and the fiercely dramatic imaginings of Thucydides.'—*New York Churchman*.

Morality and Religion. By JAMES KIDD, D.D. 8vo. Nett \$3.50

'We are not acquainted with any other book that has so clearly shown the vital unity between religion and morality. . . . A strong book by a strong man.'—*Methodist Times*.

'It is the work of a master of psychological analysis.'—*Record*.

The Hope of Israel: A Review of the Argument from Prophecy. By Rev. F. H. WOODS, B.D., Oxford. Crown 8vo. Nett \$1.25

'It is obvious that the argument from Prophecy must require modification from time to time, as fresh light is continually thrown on exegesis by modern scholarship and criticism. The great advance which has been made in these last of late years has indeed, so largely affected it, that in its old form it was already beginning to do more harm than good to the cause of Christian truth.'—*From the Preface*.

Truth and Reality, with special reference to Religion; or, A Plea for the Special Unity of Life in all its Manifestations. By JOHN SMYTH, M.A., D.Phil. (Edin.). With Introductory Note by Professor R. FLINT, D.D. Crown 8vo. Nett \$1.50

'Admirably adapted both as regards content and form—thought and style—to interest and profit not only all philosophical readers, but thoughtful and educated men in general.'—Professor FLINT in his *Introduction*.

The Sinlessness of Jesus. An Evidence for Christianity. By CARL ULLMANN, D.D. Crown 8vo. Nett \$1.50

Dean FARRAR, in his *Life of Christ*, says: 'Ullmann has studied the sinlessness of Christ more profoundly, and written upon it more beautifully, than any other theologian.'

WORKS BY PROFESSOR F. GODET, D.D.

(Copyright, by arrangement with the Author.)

For devotional warmth and practical application, Godet is perhaps unsurpassed by any modern commentator amongst foreign Protestants.—*GUARDIAN.*

Introduction to the New Testament. The Epistles of St. Paul. By Prof. F. GODET, D.D., Neuchâtel. 8vo (pp. 630).

(In course of publication. Not yet completed in the Original.)

Two Volumes of the English Translation are now ready, viz:—

I. **THE EPISTLES OF ST. PAUL.** 8vo, Nett \$3.50

II. **THE GOSPEL COLLECTION, AND ST. MATTHEW'S GOSPEL.** 8vo. Nett \$2.25

'Anything that comes from Dr. Godet is sure to receive a cordial welcome, and our familiarity with his eloquent and luminous commentaries prepares us to appreciate very highly a work in which the venerable Swiss thus gathers up the harvest of a lifetime.'—*Critical Review.*

'In every particular it is fully abreast of the times. For the purposes of the hard-working preacher there is no book on St. Paul's Epistles quite equal to this. For the student, it must always lie in a place that his hand can reach. It is delightful reading.'—*Methodist Times.*

Commentary on St. Luke's Gospel. 2 Vols. 8vo. Nett \$4.50

'Marked by clearness and good sense, it will be found to possess value and interest as one of the most recent and copious works specially designed to illustrate this Gospel.'—*Guardian.*

Commentary on St. John's Gospel. 3 Vols. 8vo. Nett \$6.75

'This Gospel forms one of the battlefields of modern inquiry, and is itself so rich in spiritual truth that it is impossible to examine it too closely; and we welcome this treatise from the pen of Dr. Godet. We have no more competent exegete, and this new volume shows all the learning and vivacity for which the author is distinguished.'—*Freeman.*

Commentary on St. Paul's Epistle to the Romans.

Two Vols. 8vo.

Nett \$4.50

'We prefer this commentary to any other we have seen on the subject.'—*British and Foreign Evangelical Review.*

Commentary on St. Paul's First Epistle to the Corinthians. Two Vols. 8vo. Nett \$4.50

'We do not know any better commentary to put into the hands of theological students.'—*Guardian.*

'A perfect masterpiece of theological toil and thought. . . . Scholarly, evangelical, exhaustive, and able.'—*Evangelical Review.*

Defence of the Christian Faith. Crown 8vo. New and Cheaper Edition. Nett \$1.25

'There is trenchant argument and resistless logic in these lectures; but withal, there is cultured imagination and felicitous cloquence, which carry home the appeals to the heart as well as the head.'—*Sword and Trowel.*

Nature and the Bible: Lectures on the Mosaic History of Creation in its relation to Natural Science. By Dr. FR. H. REUSCH. Authorised Translation. Two Vols. 8vo. Nett \$5.00

'Other champions much more competent and learned than myself might have been placed in the field; I will only name one of the most recent, Dr. Reusch, author of "Nature and the Bible."—W. E. GLADSTONE.

'We owe to Dr. Reusch, a Catholic theologian, one of the most valuable treatises on the relation of Religion and natural science that has appeared for many years.'—*Literary World.*

BY THE LATE PROFESSOR A. B. BRUCE, D.D.

The Kingdom of God; or, Christ's Teaching according to the Synoptical Gospels. By the late Professor A. B. BRUCE, D.D., Glasgow. Sixth Edition. Post 8vo. **Nett \$2.00**

'As satisfactory a treatment of the central teachings of Jesus as exists.'—*Biblical World* (Chicago).

'To Dr. Bruce belongs the honour of giving to English-speaking Christians the first really scientific treatment of this transcendent theme. . . . His book is the best monograph on the subject in existence.'—Rev. JAMES STALKER, D.D., in the *British Weekly*.

The Epistle to the Hebrews: The First Apology for Christianity. An Exegetical Study. Second Edition. Post 8vo. **Nett \$2.00**

This book, the fruit of thirty years' study, is a companion volume to Professor Bruce's 'The Kingdom of God,' and 'St. Paul's Conception of Christianity.'

The Training of the Twelve; or, Exposition of Passages in the Gospels exhibiting the Twelve Disciples of Jesus under Discipline for the Apostleship. Fifth Edition. 8vo. **Nett \$3.50**

'That minister who has not read "The Training of the Twelve" betrays an indifference to modern thought which is unpardonable.'—President HARPER in the *Biblical World*.

'A volume which can never lose its charm either for the preacher or for the ordinary Christian reader.'—*London Quarterly Review*.

The Humiliation of Christ, in its Physical, Ethical, and Official Aspects. Fourth Edition. 8vo. **Nett \$3.50**

'These lectures are able and deep-reaching to a degree not often found in the religious literature of the day; withal, they are fresh and suggestive. . . . The learning and the deep and sweet spirituality of this discussion will commend it to many faithful students of the truth as it is in Jesus.'—*Congregationalist*.

BY PROFESSOR JAMES STALKER, D.D.

The Life of Jesus Christ. New Edition, in larger type, and handsomely bound, crown 8vo. **Nett \$1.25**

'Even with all our modern works on the exhaustless theme, from Neander to Farrar and Geikie, there is none which occupies the ground of Dr. Stalker's. . . . We question whether any one popular work so impressively and adequately represents Jesus to the mind. . . . It may be despised because it is small, but its light must shine.'—*Christian*.

The Life of St. Paul. Uniform with the 'Life of Christ' in size and price. **Nett \$1.25**

'Even to those who know by heart the details of the great apostle's life, this glowing sketch will be a revelation. Written with a fine sympathy for the more tender and personal aspects of his theme, Dr. Stalker has portrayed the outer and the inner life of Paul with a mingled power and beauty which is as rare as it is needed in evangelical writing.'—*Christian*.

* * Small type Editions of both Volumes in the 'BIBLE CLASS HANDBOOK Series,' price 45 cents (nett) each.—See page 35.

The Resurrection of the Dead. By the late Prof. W. MILLIGAN, D.D. Second Edition, crown 8vo. **Nett \$1.50**

'In the treatment of such passages as these, Dr. Milligan's thoughtfulness, judgment, and scholarship reach their highest expression. We can but lament that this is the last volume for which we shall be indebted to him.'—*Record*.

The Incarnate Saviour: A Life of Jesus Christ. By W. ROBERTSON NICOLL, LL.D., Editor of 'The Expositor,' 'The British Weekly,' etc. *New and Cheaper Edition.* Crown 8vo. **Nett \$1.00**

'It commands my warm sympathy and admiration. I rejoice in the circulation of such a book, which I trust will be the widest possible.'—Canon LIDDON,

Messianic Prophecy: Its Origin, Historical Growth, and Relation to New Testament Fulfilment. By Dr. EDWARD RIEHM. New Edition. With an Introduction by the late Prof. A. B. DAVIDSON, D.D. Post 8vo. Nett \$2.25

'No work of the same compass could be named that contains so much that is instructive on the nature of prophecy in general, and particularly on the branch of it specially treated in the book.'—Professor A. B. DAVIDSON, D.D.

The Right of Systematic Theology. By Professor B. B. WARFIELD, D.D., Princeton University. With an Introduction by Professor J. ORR, D.D. Crown 8vo. Nett 60 cents

'A powerful blow directed against the attempt to abolish doctrine and creeds and reduce Christianity to mere sentiment. The protest made in this strong essay is most timely. We join Dr. Orr and other Scottish divines in earnestly commending it to the notice of theological readers.'—*Methodist Times*.

Pre-Organic Evolution and the Biblical Idea of God: An Exposition and a Criticism. By Principal L. CHAPMAN, LL.D. Crown 8vo. Nett \$1.75

'A volume which will take an important position among Theistic, not to say Christian apologetics, and which, in the present growth of scepticism, we may well be thankful for.'—*Literary Churchman*.

Darwinianism: Workmen and Work. By J. HUTCHISON STIRLING, F.R.C.S., and LL.D. Edinburgh. Post 8vo. Nett \$3.00

'Undoubtedly the most trenchant criticism of Darwinianism that has yet appeared. . . . The book is a work of art.'—Professor M'KENDRICK in the *Critical Review*.

Philosophy and Theology, The First Edinburgh University Gifford Lectures. By J. HUTCHISON STIRLING, LL.D. Post 8vo. Nett \$3.00

'This volume will make for itself many friends. There is a bracing, stimulating masterfulness about the lectures, which on a careful perusal of them will be found to lead to many rich veins of thought.'—Professor STEWART in the *Critical Review*.

What is Thought? or, the Problem of Philosophy by Way of a General Conclusion so far. By JAS. H. STIRLING, LL.D. Post 8vo. Nett \$3.00

'A noble contribution to the philosophy of our time. British philosophy is permanently enriched by Dr. Stirling's remarkable and penetrating piece of work.'—*Critical Review*.

History of the Christian Philosophy of Religion, from the Reformation to Kant. By BERNHARD PÜNJER. Translated by Prof. W. HASTIE, D.D. With a Preface by Prof. FLINT, D.D., LL.D. 8vo. Nett \$4.00

'The merits of Pünjer's history are not difficult to discover; on the contrary, they are of the kind which, as the French say, *sautent aux yeux*. The language is almost everywhere as plain and easy to apprehend as, considering the nature of the matter conveyed, it could be made. The style is simple, natural, and direct; the only sort of style appropriate to the subject. The amount of information imparted is most extensive, and strictly relevant. Nowhere else will a student get nearly so much knowledge as to what has been thought and written, within the area of Christendom, on the philosophy of religion. He must be an excessively learned man in that department who has nothing to learn from this book.'—*Extract from Preface by Prof. FLINT*.

Handbook of Church History: From the Reformation. By
Prof. J. H. KURTZ, D.D. 8vo. Nett \$2.50

'A work executed with great diligence and care, exhibiting an accurate collection of facts, and succinct though full account of the history and progress of the Church, both external and internal. . . . The work is distinguished for the moderation and charity of its expressions, and for a spirit which is truly Christian.'—*English Churchman*.

The First Epistle of Peter: With Introduction and Commentary. By Prof. R. JOHNSTONE, D.D., Edinburgh. 8vo. Nett \$1.50

'Dr. Johnstone has done excellent service in publishing this work.'—*Record*.

'Full of thoughtfulness and spiritual power and suggestiveness, and likely to be a valuable book to all Christian teachers.'—*Literary World*.

BY THE LATE PATON J. GLOAG, D.D.

Introduction to the Synoptic Gospels. By the late PATON
J. GLOAG, D.D., Edinburgh. 8vo. Nett \$2.25

'A volume of sterling value; learned, clear, candid, cautious, thoroughly well-considered; it should be a welcome addition to the library of the biblical student.'—*London Quarterly Review*.

Introduction to the Catholic Epistles. 8vo. Nett \$3.50

'Ought to be eagerly welcomed as a solid contribution to theological literature; it is a work of masterly strength and uncommon merit.'—*Evangelical Magazine*.

Exegetical Studies. Crown 8vo. Nett \$1.50

'Dr. Gloag handles his subjects very ably, displaying everywhere accurate and extensive scholarship, and a fine appreciation of the lines of thought in those passages with which he deals.'—*Baptist*.

The Messianic Prophecies. Crown 8vo. Nett \$2.25

'We regard Dr. Gloag's work as a valuable contribution to theological literature. We have not space to give the extended notice which its intrinsic excellence demands, and must content ourselves with cordially recommending it to our readers.'—*Spectator*.

Evening Thoughts. Being Notes of a Threefold Pastorate.
Crown 8vo. Nett \$1.50

'Able, vigorous, and logical, marked by deep and robust thought, and stimulating in the highest degree.'—*Aberdeen Journal*.

Commentary on St. Paul's Epistle to the Ephesians.
By Rev. J. MACPHERSON, M.A. 8vo. Nett \$3.00

'It is an advance, and a great one, on anything we yet possess. . . . The author goes to the root, and neglects nothing that usually comes under the eye of a careful student. . . . Besides all this, the book is a living book. One is conscious of the heart of a man in it, as well as the brains.'—*Methodist Times*.

Christian Dogmatics. By Rev. J. MACPHERSON, M.A., Author
of 'Commentary on St. Paul's Epistle to the Ephesians,' etc.
Post 8vo. Nett \$3.00

'Works on systematic theology are so few that we gladly welcome a well-informed and well-written compendium like the present one. . . . The work deserves a wide circulation among readers of theology.'—*Methodist Times*.

BY DR. C. VON ORELLI, BASEL.

The Twelve Minor Prophets. 8vo. Nett \$2.25

'A very valuable and trustworthy compendium of the latest results of critical research, written in a sober and devout spirit.'—*Christian World*.

The Prophecies of Isaiah. 8vo. Nett \$2.25

'The characteristics of this admirable commentary are brevity, separation of the more grammatical from the more expository notes, and general orthodoxy combined with first-rate scholarship.'—*Record*.

The Prophecies of Jeremiah. 8vo. Nett \$2.25

'Will be found a most trustworthy aid to the study of a book that presents many difficult problems.'—*John Bull*.

The Old Testament Prophecy of the Consummation of God's Kingdom. Traced in its Historical Development. 8vo. Nett \$2.25

'Cannot fail to be regarded as a standard work upon the subject of Old Testament prophecy.'—*Sword and Trowel*.

The Apostolic and Post-Apostolic Times. By Prof. G. V. LECHLER, D.D. Third Edition, thoroughly Revised and Re-written. Two Vols. crown 8vo. Nett \$5.00

'It contains a vast amount of historical information, and is replete with judicious remarks. . . . By bringing under the notice of English readers a work so favourably thought of in Germany, the translator has conferred a benefit on Theology.'—*Athenæum*.

THE LATE PROFESSOR FRANZ DELITZSCH, D.D., LEIPZIG.

'Probably no commentator of the age brought so many gifts to the interpretation of the Bible as did Franz Delitzsch. . . . Walking hand in hand with such a guide through the garden of the Lord, one cannot only gather its ripened fruit, but also breathe the fragrance of its flowers and gaze upon their loveliness.'—Professor J. F. M'CURDY, Toronto.

A New Commentary on Genesis. By the late Prof. FRANZ DELITZSCH, D.D., Leipzig. Specially Revised by the Author for the English Translation. Two Vols. 8vo. Nett \$4.50

'We congratulate Professor Delitzsch on this new edition. By it, not less than by his other commentaries, he has earned the gratitude of every lover of biblical science, and we shall be surprised if, in the future, many do not acknowledge that they have found in it a welcome help and guide.'—Professor S. R. DRIVER in the *Academy*.

The Prophecies of Isaiah. Translated from the Fourth and Last Edition. *The only Authorised Translation.* With Introduction by Prof. S. R. DRIVER, D.D. Two Vols. 8vo. Nett \$4.50

'Delitzsch's last gift to the Christian Church. . . . In our opinion, those who would enter into the meaning of that Spirit as He spake long ago by Isaiah, words of comfort and hope which have not lost their significance to-day, cannot find a better guide; one more marked by learning, reverence, and insight, than Franz Delitzsch.'—*Expository Times*.

A System of Biblical Psychology. 8vo. Nett \$2.25

'Still the best book on the whole of the subject.'—Principal CAVE, D.D.

*** For other works by Professor Delitzsch, see '*The Foreign Theological Library*,' p. 39.

Franz Delitzsch: A Memorial Tribute. By Prof. S. I. CURTISS, D.D., Chicago. With a Portrait. Crown 8vo. Nett \$1.00

'A highly interesting little monograph on the personality of the great theologian, and on his work.'—*Spectator*.

BY THE LATE PROFESSOR W. HASTIE, D.D.

The Theology of the Reformed Church in its Fundamental Principles. By the late Professor W. HASTIE, D.D., Glasgow. Crown 8vo. **Nett \$1.50**

'The work so long looked for is now published, and it is to be hoped that it will be widely and kindly received. No intelligent reader of it can fail to find in its pages much information, eloquently stated, regarding both the history and the characteristics of the reformed Theology.'—From Prefatory Note by Prof. R. FLINT, D.D.

'The logical cohesion of the Calvinistic system finds here an excellent expression by an advocate no less skilful than convinced.'—*New York Churchman.*

Outlines of Pastoral Theology for Young Ministers and Students. Crown 8vo. **Nett 75 cents**

'We have seldom read a book of loftier ideal or more practical value to parish priests than this volume.'—*New York Churchman.*

'How Professor Hastie discovered this book, and how he was drawn to it, how it had to be laid aside, and how it would not lie,—all this is told with thrilling simplicity in the Introduction. We do greatly need a small competent sympathetic guide to the work of the ministry. This is the book we need.'—*Expository Times.*

St. Paul's Conception of Christ; or, The Doctrine of the Second Adam. By Rev. DAVID SOMERVILLE, D.D., Edinburgh. 8vo. **Nett \$3.00**

'The book gives evidence throughout of wide familiarity with recent literature, both exegetical and dogmatic, and manifests in many features a mastery of Pauline thought that makes it very welcome to students of the great apostle.'—*American Journal of Theology.*

Theologia Pectoris: Outlines of Religious Faith and Doctrine, founded on Intuition and Experience. By the Rev. J. M. HODGSON, M.A., D.Sc., D.D., Principal of the Theological Hall of the Congregational Churches of Scotland. In crown 8vo. **Nett \$1.25**

A System of Biblical Theology. By the late W. LINDSAY ALEXANDER, D.D., LL.D. Two Vols. 8vo. **Nett \$6.00**

'Oh that Scotland and Congregationalism had many worthies like Dr. Lindsay Alexander! . . . The ripe man, full of rich experience and heavenly knowledge, will prize each leaf, and give himself a glorious drilling as he masters chapter by chapter.'—Mr. SPURGEON in the *Sword and Trowel.*

The Ancient Faith in Modern Light.

A series of Essays by eminent Congregational and Baptist ministers on some theological questions much discussed in modern days. The subjects include such topics as 'Theism,' 'The Bible,' 'Sin,' 'The Incarnation,' 'The Atonement,' with practical questions such as 'The Church in Modern Society,' 'The Pulpit in relation to Literature,' etc. The Contributors include Dr. GUINNESS ROGERS, Dr. JOSEPH PARKER, Principals VAUGHAN PRYCE, CAVE, and TYMMS, Dr. NEWTH, Rev. W. BROCK, E. MEDLEY, and Dr. SAMUEL G. GREEN, who has edited the work. The object of the book is to vindicate the belief of the Churches in those important topics, and the harmony of that belief with a true philosophy, and its adaptation to the thought of the age. The Volume may therefore be regarded in some sense as a manifesto of modern liberal belief.

Nett \$3.50

From Apostle to Priest. A Study of Early Church Organisation. By JAMES W. FALCONER, M.A., B.D. In crown 8vo. **Nett \$1.50**

'The story is told with the greatest clearness and convincing force. To any one who wishes a plain accurate account of the growth of the sacerdotal theory of the ministry we confidently recommend this work.'—*London Quarterly Review.*

How to Read the Prophets: Being the Prophecies arranged Chronologically in their Historical Setting, with Explanations, Maps, and Glossary. By BUCHANAN BLAKE, B.D.

PART I. THE PRE-EXILIAN MINOR PROPHETS (with JOEL). Second Edition.—PART II. ISAIAH (Chaps. i.—xxxix.). Second Edition.—PART III. JEREMIAH.—PART IV. EZEKIEL.—PART V. ISAIAH (Chaps. xl.—lxvi.) and THE POST-EXILIAN PROPHETS. (Complete in 5 Vols. crown 8vo.) Each, Nett \$1.00

'It has often been found a difficulty to profit fully from the reading, especially of the smaller prophecies of the Old Testament. To make these prophecies intelligible to the plainest reader, it seems desirable that a chronological arrangement of the prophetic books should be attempted. Alongside of the several prophecies should be placed those portions of the Old Testament historical books which deal with the same period. The aim of these manuals is consequently in this direction: to bring within the reach of the many a clear and succinct presentation of these prophets in their historical environment.'—FROM THE AUTHOR'S INTRODUCTION.

'Mr. Blake seems to have hit upon the right thing, and he has proved himself competent to do it rightly. While these books are the very best introductions to the study of the prophets, even the accomplished scholar will find them indispensable.'—*Expository Times*.

Joseph and Moses the Founders of Israel: Being their Lives as read in the Light of the Oldest Prophetic Writings of the Bible. Crown 8vo. Nett 1.25

'Mr. Blake hit upon a fresh idea when he wrote his books on "How to Read the Prophets." Nothing has made the prophets so accessible to the average man. He has hit upon a fresh idea again. . . . Have we come to the point as preachers when we desire to make a new start with the Old Testament? This book will enable us to make it.'—*Expository Times*.

'This instructive and always vivid exposition of the narrative.'—*Princeton Theological Review*.

The Voice from the Cross: A Series of Sermons on our Lord's Passion by Eminent Living Preachers of Germany, including Drs. Ahlfeld, Baur, Bayer, Couard, Faber, Frommel, Gerok, Hähnelt, Hansen, Kögel, Luthardt, Mühe, Müllensiefen, Nebe, Quandt, Schrader, Schröter, Stöcker, and Teichmüller. With Biographical Sketches and Portrait of Dr. Kögel. Crown 8vo. Nett \$1.50

'Is certain to be welcomed with devout gratitude by every Evangelical Christian.'—*Christian Leader*.

BY PRINCIPAL A. CAVE, D.D.

An Introduction to Theology: Its Principles, Its Branches, Its Results, and Its Literature. By ALFRED CAVE, D.D., Principal of Hackney College, London. New Edition just published, Revised and largely Re-written. The Bibliography brought up to date. 8vo. Nett \$3.50

'I have just seen your excellent "Introduction to Theology," and feel prompted to thank you for this excellent help to students. I have been lecturing on this subject for forty years, and long wished for some such substitute for Hagenbach (too German to be translated or even reproduced) which I could recommend to my students. . . . It is the best original work on the subject in the English language.'—PHILIP SCHAFF, D.D., LL.D.

The Scriptural Doctrine of Sacrifice and Atonement. New Edition, Revised throughout. 8vo. Nett \$3.00

'Let readers judge—is this not now the best study of the Atonement in the English language?'—*Expository Times*.

The Prophecies of Jesus Christ relating to His Death, Resurrection, and Second Coming, and their Fulfilment. By Dr. P. SCHWARTZKOPFF. Crown 8vo. Nett \$1.50

'A book blossoming on every page with suggestions, and worthy of the most serious study of the theologians.'—Prof. MARCUS DODS in the *Critical Review*.

BY PROFESSOR I. A. DORNER, D.D., BERLIN.

History of the Development of the Doctrine of the Person of Christ. By Prof. I. A. DORNER, Berlin. Five Vols. 8vo. Nett \$11.25

'The stupendous work upon *The Person of Christ* has now become in Great Britain and America, what it had been in Germany from its publication, a classic in Christology.'—Principal CAVE, D.D.

A System of Christian Doctrine. Four Vols. 8vo. Nett \$9.00

'Had it been the work of an entire lifetime, it would have been a monument of marvellous industry and rare scholarship. It is a tribute alike to the genius, the learning, and the untiring perseverance of its author.'—*Baptist Magazine*.

System of Christian Ethics. 8vo. Nett \$3.00

'This noble book is the crown of the Systematic Theology of the author. . . . It is a masterpiece. It is the fruit of a lifetime of profound investigation in the philosophical, biblical, and historical sources of theology.'—Prof. C. A. BRIGGS, D.D.

BY PROFESSOR BERNHARD WEISS, D.D., BERLIN.

The Life of Christ. Three Vols. 8vo. Nett \$6.75

'The authority of John's Gospel is vindicated with great fulness and success. Altogether the book seems destined to hold a very distinguished, if not absolutely unique, place in the criticism of the New Testament. Its fearless search after truth, its independence of spirit, its extent of research, its thoughtful and discriminating tone must secure for it a very high reputation.'—*Congregationalist*.

Biblical Theology of the New Testament. Two Vols. 8vo. Nett \$4.50

'This is a field which Weiss has made his own. His work far excels the numerous works of his predecessors in thoroughness and completeness.'—*Methodist Recorder*.

Apologetics ; or, The Scientific Vindication of Christianity. By Prof. J. H. A. EBRARD, D.D., Erlangen. Three Vols. 8vo. Nett \$6.75

'The author of this work has a reputation which renders it unnecessary to speak in words of general commendation of his "*Apologetics*," . . . Dr. Ebrard takes nothing for granted. He begins at the beginning, laying his foundations deep and strong, and building upon them patiently and laboriously, leaving no gaps, no loose work, but adjusting each stone in its place and use.'—*Church Bells*.

The Miracles of our Lord, in relation to Modern Criticism. By Professor F. L. STEINMEYER. 8vo. Nett \$2.25

'This work vindicates in a vigorous and scholarly style the sound view of miracles against the sceptical assaults of the time.'—*Princeton Review*.

History of the Passion and Resurrection of our Lord, considered in the light of Modern Criticism. By Professor F. L. STEINMEYER. 8vo. Nett \$2.25

'Our readers will find this work a most valuable and suggestive help for their thoughts and teaching during Passion-tide and Easter.'—*English Churchman*.

BISHOP HEFELE'S COUNCILS OF THE CHURCH.

A History of the Councils of the Church. From the Original Documents. By the Right Rev. C. J. HEFELE, D.D., Bishop of Rottenburg. Now complete in Five Vols. 8vo. Vol. I., to A.D. 325. Vol. II., A.D. 326 to 429. Vol. III., A.D. 431 to 451. Vol. IV., A.D. 451 to 680. Vol. V., completing the series, A.D. 626 to close of Second Council of Nicæa, 787. With Appendix and Indices. 8vo. Per Vol. Nett \$3.50

'To all who have the slightest pretension to the name of scientific theologians it must afford the greatest satisfaction to receive a new volume of Bishop Hefele's standard work on the Councils. It is quite unnecessary to commend this great and learned book. No one would think of studying the subject of the Councils without consulting it.'—*Church Bells*.

Declarations and Letters on the Vatican Decrees, 1869-1887. By IGNAZ VON DÖLLINGER. Authorised Translation. Crown 8vo. Nett \$1.00

Dr. ALFRED PLUMMER says: 'This intensely interesting collection of Declarations and Letters gives us in a short compass the main historical facts which Dr. Döllinger considered to be absolutely fatal to the truth of the dogma respecting the infallibility of the Pope, and the reason which for nineteen years prevented him from "submitting" even to the Pope with the whole of the Roman episcopate at his back. . . . Indispensable to every one who would have an intelligent grasp of the Infallibility Question.'

Hippolytus and Callistus; or, The Church of Rome in the First Half of the Third Century. By IGN. VON DÖLLINGER. Translated, with Introduction, Notes, and Appendices, by A. PLUMMER, D.D., Durham. 8vo. Nett \$2.00

'We are impressed with profound respect for the learning and ingenuity displayed in this work. The book deserves perusal by all students of ecclesiastical history. It clears up many points hitherto obscure, and reveals features in the Roman Church at the beginning of the third century which are highly instructive.'—*Athenæum*.

The Early Church: A History of Christianity in the First Six Centuries. By the late Prof. DAVID DUFF, D.D., LL.D., Edinburgh. 8vo. Nett \$3.50

'A more uniformly chastened and dignified style could not be desired. . . . There is no history of this time at once so full and so concise, no safer guide or more agreeable companion.'—*Expository Times*.

BY J. J. VAN OOSTERZEE, D.D.

The Year of Salvation: Words of Life for Every Day. A Book of Household Devotion. Two Vols. large crown 8vo. Per Vol. Nett \$1.75

'This charming and practical book of household devotion will be welcomed on account of its rare intrinsic value, as one of the most practical devotional books ever published.'—*Standard*.

Moses: A Biblical Study. Crown 8vo. Nett \$1.75

'Our author has seized, as with the instinct of a master, the great salient points in the life and work of Moses, and portrayed the various elements of his character with vividness and skill.'—*Baptist Magazine*.

The Bible Doctrine of Man; or, The Anthropology and Psychology of Scripture. By Professor J. LAIDLAW, D.D., Edinburgh. New Edition, Revised and Re-arranged. Post 8vo. Nett \$2.25

'The standard work in English on the Anthropology and Psychology of the Bible. . . . A volume worthy of its subject, and likely to hold the first place in it for many days to come.'—*Expository Times*.

Kant, Lotze, and Ritschl. A Critical Examination. By LEONHARD STÄHLIN, Bayreuth. Translated by Principal SIMON, D.D. 8vo. Nett \$3.00

'This learned work goes to the very root of the philosophical and metaphysical speculations of recent years.'—*Ecclesiastical Gazette*.

BY THE REV. J. B. HEARD, M.A.

Alexandrian and Carthaginian Theology Contrasted. (Hulsean Lectures.) Crown 8vo. Nett \$1.75

'We can heartily recommend these lectures as pursuing a most interesting branch of inquiry in a thoroughly able, scholarly, and instructive way.'—*Scotsman*.

Old and New Theology: A Constructive Critique. Crown 8vo. Nett \$1.75

'Progressive theologians, who desire to find "the old in the new, and the new in the old," will be deeply grateful to Mr. Heard for this courageous and able work.'—*Christian World*.

The Tripartite Nature of Man: Spirit, Soul, and Body. Fifth Edition. Crown 8vo. Nett \$1.75

'An elaborate, ingenious, and very able hook.'—*London Quarterly Review*.

WORKS BY ERNEST NAVILLE.

The Christ. By ERNEST NAVILLE, Corresponding Member of the Institute of France. Crown 8vo. Nett \$1.25

'M. Naville is well known as an earnest, faithful, and eloquent defender of the Christian faith, master of a rich French style, and endowed with exquisite tact in adapting his apology to the thoughts and needs of his readers.'—*London Quarterly Review*.

Modern Physics: Studies Historical and Philosophical. Crown 8vo. Nett \$1.25

'This work meets, with rare skill, some of the more subtle speculations of prominent writers in our midst.'—*Record*.

The Problem of Evil. Crown 8vo. Nett \$1.25

'We give this book our warmest commendation. . . . The brilliant sparkle of the French original is as nearly preserved as could be expected in any version.'—*Literary Churchman*.

Kant's Principles of Politics, including His Essay on Perpetual Peace. A Contribution to Political Science. Edited and Translated by Professor HASTIE, D.D. Crown 8vo. Nett \$1.00

Kant's Metaphysic of Ethics. Edited by Professor H. CALDERWOOD, LL.D. Crown 8vo. Fourth Edition. Nett \$1.75

'This translation has been accepted by scholars as a real success.'—*Contemporary Review*.

BY PRINCIPAL D. W. SIMON, D.D.

Reconciliation by Incarnation: The Reconciliation of God and Man by the Incarnation of the Divine Word. By Principal D. W. SIMON, D.D., The United College, Bradford. 8vo.

Nett \$2.25

'A treatise of great value, for its broad philosophical grasp, its subtle spiritual insight, and its apt illustrations. It is a fresh, timely, and independent study of a subject which must ever be to the fore.'—*Baptist Magazine*.

The Bible an Outgrowth of Theocratic Life. Crown 8vo.

Nett \$1.50

'This book will well repay perusal. It contains a great deal of learning as well as ingenuity, and the style is clear.'—*Guardian*.

BY THE REV. JOHN HUTCHISON, D.D.

Our Lord's Signs in St. John's Gospel: Discussions, chiefly Exegetical and Doctrinal, on the Eight Miracles in the Fourth Gospel. 8vo.

Nett \$2.25

'A learned, thoughtful, and delicate study of the Miracles of the Fourth Gospel.'—*Bookman*.

Lectures on Paul's Epistle to the Philippians. 8vo.

Nett \$2.25

'This book has one great merit which separates it from the mass of commentaries and expository lectures—it is not only instructive, but it is also delightfully interesting. . . . The author's moral and spiritual tone is lofty, and these sermons are characterised by a sweet and sunny grace, which cannot but charm and make better those who read them.'—*Literary World*.

Lectures on Paul's Epistles to the Thessalonians. 8vo.

Nett \$3.00

'The text is at once treated with scholarly ability, and turned to popular and practical account. Such is the character of Dr. Hutchison's work—his exegesis of crucial passages strikes us at once as eminently clear.'—*Baptist*.

Pastoral Theology of the New Testament. By Professor J. T. BECK, D.D., Tübingen. Authorised Translation. Crown 8vo.

Nett \$1.75

'Thorough knowledge of the Scripture, rigid fidelity to its principles, robust common sense, perfect lucidity of statement and orderliness of arrangement, combined with profound reverence for Christ and fervent love for men, make this by a long way the best exposition of *The Teaching of the New Testament* on all questions relating to the pastoral office and work which we yet possess. . . . Whatever other books are used in our colleges, and studied by our ministers, we believe that Dr. Beck's "Pastoral Theology" will soon be universally regarded as indispensable.'—*Baptist Magazine*.

Outlines of Biblical Psychology. By Professor J. T. BECK, D.D. Crown 8vo.

Nett \$1.25

'A useful, handy volume, which compresses into small space the results of scholarly and elaborate investigations.'—*Baptist Magazine*.

The Jewish and the Christian Messiah: A Study in the Earliest History of Christianity. By Professor V. H. STANTON, D.D., Cambridge. 8vo.

Nett \$3.00

'Mr. Stanton's book answers a real want, and will be indispensable to students of the origin of Christianity.'—*Guardian*.

Biblical Essays; or, Exegetical Studies on the Books of Job and Jonah, Ezekiel's Prophecy of Gog and Magog, St. Peter's 'Spirits in Prison,' and the Key to the Apocalypse. By C. H. H. WRIGHT, D.D. Crown 8vo. Nett \$1.50

'Solid scholarship, careful and sober criticism, and a style which is pure and lucid.'
—*Church Bells*.

BY PROFESSOR C. E. LUTHARDT, D.D., LEIPZIG.

A History of Christian Ethics before the Reformation. Authorised Translation by Professor W. HASTIE, D.D. 8vo. Nett \$2.25

'Charmingly written and adequately covers the ground. . . . The ablest and most thorough historical exposition of the subject of Christian Ethics that has been made accessible to English-speaking people.'—*Presbyterian and Reformed Review*.

The Truths of Christianity. Three Vols. Crown 8vo. Each, Nett \$1.75

1. **THE FUNDAMENTAL TRUTHS OF CHRISTIANITY.** Seventh Edition.

2. **THE SAVING TRUTHS OF CHRISTIANITY.** Fifth Edition.

3. **THE MORAL TRUTHS OF CHRISTIANITY.** Fourth Edition.

'We do not know any volumes so suitable in these times for young men entering on life, or, let us say, even for the library of a pastor called to deal with such, than the three volumes of this series. We commend the whole of them with the utmost cordial satisfaction. They are altogether quite a specialty in our literature.'—*Weekly Review*.

Commentary on St. John's Gospel. Three Vols. 8vo. Nett \$6.75

'Full to overflowing with a ripe theology and a critical science worthy of their great theme.'—*Irish Ecclesiastical Gazette*.

St. John the Author of the Fourth Gospel. Translated, and the Literature enlarged, by Dr. C. R. GREGORY, Leipzig. 8vo. Nett \$2.25

'A work of thoroughness and value.'—*Guardian*.

The Church: Its Origin, Its History, and Its Present Position. By Professors LUTHARDT, KAHNIS, and BRÜCKNER. Crown 8vo. Nett \$1.50

'A comprehensive review of this sort, done by able hands, is both instructive and suggestive.'—*Record*.

The Kingdom of God, Biblically and Historically considered. By Professor J. S. CANDLISH, D.D., Glasgow. 8vo. Nett \$3.00

'Dr. Candlish treats his subject with an admirable combination of scholarly comprehensiveness, historical candour, and regard to the practical demands of mankind.'—*Christian World*.

'As to the ability of this volume there can be no question: it is worthy of the reputation and position of its author.'—*Evangelical Magazine*.

Central Truths and Side Issues. By R. G. BALFOUR, D.D., Edinburgh. Crown 8vo. Nett \$1.25

'The book is well worth buying and keeping. The chapter on the Incarnation and Humiliation of the Son of God is admirable in every way—reasonable, liberal, and full of acute and forcible argument.'—*Review of the Churches*.

Ephesians, Philippians, Colossians. By the late Professor J. EADIE, D.D. Three Vols. 8vo. Per Vol. Nett \$3.00

The World of Faith and the Everyday World. As displayed in the Footsteps of Abraham. By PASTOR OTTO FUNCKE, Post 8vo. Nett \$2.00

'A remarkable volume. . . . The plainness and freedom of his speech, the homeliness and force of his illustrations, the general directness and vigour of his method, are such as one does not often meet with. . . . To describe the author in short, we should say that he was a German Spurgeon.'—*Spectator*.

The Footsteps of Christ. Translated from the German A. of CASPERS. Crown 8vo. Nett \$2.50

'There is much deeply experimental truth and precious spiritual love in Caspers' book. . . . I own myself much profited by his devout utterances.'—Rev. C. H. SPURGEON.

Gotthold's Emblems; or, Invisible Things understood by Things that are Made. By CHRISTIAN SCRIVER. Crown 8vo. Nett \$1.50

'A peculiarly fascinating volume. It is rich in happy and beautiful thoughts, which grow on the root of genuine piety.'—*Witness*.

Sermons for the Christian Year: Advent-Trinity. By Professor ROTHE, Heidelberg. Crown 8vo. Nett \$1.25

'The volume is rich in noble thoughts and wholesome lessons.'—*Watchman*.

BY REV. NEWMAN HALL, D.D.

Gethsemane; or, Leaves of Healing from the Garden of Grief. Second Edition. Crown 8vo. Nett \$1.25

'A series of meditations, designed for the consolation of the afflicted. Written in the devout spirit and direct style to which we are accustomed in their author, they are admirably adapted to the object they have in view.'—*Critical Review*.

Divine Brotherhood in 'The Man Christ Jesus.' Third Edition. Crown 8vo. Nett \$1.25

'This book will receive a cordial welcome from those—and their name is legion—who esteem and admire the venerable author. It is characterised by all his well-known excellences as a writer. It is altogether admirable.'—*Scotsman*.

The Lord's Prayer: A Practical Meditation. 8vo. Nett \$1.50

Dr. THEODORE CUYLER writes: 'It is the very book to assist ministers of the gospel in the study of the Model Prayer; it is equally stimulating and quickening to private Christians in their quiet hours of meditation and devotion.'

The Spirit of Power as set forth in the Book of the Acts of the Apostles. By T. ADAMSON, D.D. Second Edition. Fcap. 8vo. Nett 40 cents

Principal MOULE writes: 'It will repay not only reading, but reading again and again. . . . A book of rare and solid value.'

The Gospel of a Risen Saviour. By R. M'CHEYNE EDGAR, D.D., ex-Moderator of the General Assembly, Irish Presbyterian Church. Post 8vo. Nett \$2.25

Principal FAIRBAIRN writes:—'Let me thank you for a most instructive and stimulating book. I am struck with its careful workmanship and the way in which it has grappled its material round its central idea. I am sure every evangelical theologian must feel that you have made a most helpful contribution to a great subject.'

An Explanatory Commentary on Esther. With Four Appendices: the Second Targum translated from the Aramaic with Notes, Mithra, the Winged Bulls of Persepolis, and Zoroaster. By Professor P. CASSEL, D.D., Berlin. Authorised Translation. 8vo. Nett \$2.25

'No one whose fortune it is to secure this commentary will rise from its study without a new and lively realisation of the life, trials, and triumphs of Esther and Mordecai.'—*Ecclesiastical Gazette*.

Handbook of Biblical Archæology. By Prof. C. F. KEIL, D.D. Two Vols. Authorised Translation. 8vo. Nett \$4.50

'This work is the standard scientific treatise on Biblical Archæology. It is a very mine of learning.'—*John Bull*.

Manual of Historico-Critical Introduction to the Canonical Scriptures of the Old Testament. By Professor C. F. KEIL, D.D. Two Vols. 8vo. Nett \$4.50

What Think Ye of the Gospels? A Handbook of Gospel Study. By Rev. J. J. HALCOMBE, M.A. 8vo. Nett \$1.25

'The author has given the matter much earnest study, and his theory, which can only be thoroughly understood by studying his work, appears to have much in it worthy of commendation.'—*Christian Commonwealth*.

BY PROFESSOR H. EWALD.

Revelation: Its Nature and Record. By Professor H. EWALD, D.D. 8vo. Nett \$2.25

'Ewald is one of the most suggestive and helpful writers of this century. This is certainly a noble book, and will be appreciated not less than his other and larger works. . . . There is a rich poetic glow in his writing which gives to it a singular charm.'—*Baptist Magazine*.

Old and New Testament Theology. 8vo. Nett \$2.25

'Suggestive on every page, and therefore essential to every student of theology.'—*Record*.

Syntax of the Hebrew Language of the Old Testament. 8vo. Nett \$2.25

'The work stands unique as regards a patient investigation of facts, written with a profound analysis of the laws of thought, of which language is the reflection.'—*British Quarterly Review*.

The Church in the Mirror of History: Studies on the Progress of Christianity. By KARL SELL, D.D., Ph.D., Darmstadt, Editor of 'Life and Letters of H.R.H. Princess Alice.' Translated by ELIZABETH STIRLING. Crown 8vo. Nett \$1.00

'Eminently thoughtful and instructive lectures.'—*Glasgow Herald*.

Hymns and Thoughts on Religion. By NOVALIS. With a Biographical Sketch and Portrait. Translated and Edited by Professor HASTIE, D.D. Crown 8vo. Nett \$1.25

'As a poet, Novalis is no less idealistic than as a philosopher. His poems are breathings of a high, devout soul.'—CARLYLE.

BY THE LATE REV. JAMES MACGREGOR, D.D.

(SOMETIME PROFESSOR OF SYSTEMATIC THEOLOGY, NEW COLLEGE, EDINBURGH.)

Studies in the History of New Testament Apologetics. 8vo. Nett \$2.25

'Dr. Macgregor is a man of vast knowledge and exceptional cleverness; deft in the use of his weapons and always wide awake. His present volume abounds in brilliant passages, clever hits, and decisive argument. . . . The book is lively reading, and carries conviction.'—*British Weekly*.

The Apology of the Christian Religion, Historically regarded with reference to Supernatural Revelation and Redemption. 8vo. Nett \$3.00

'Fresh and original, sustained and powerful, it is an apology of the noblest kind. . . . His book does indeed reach the magnificent claim which its title makes for it.'—*Expository Times*.

The Revelation and the Record: Essays on Matters of Previous Question in the Proof of Christianity. 8vo. Nett \$2.25

'The book gives us the thoughts of a strong theologian, who has studied many questions deeply, and is able to hold his own with most opponents.'—*Critical Review*.

Those Three Volumes form Dr. Macgregor's 'Apologetic Series.' Independent works, they yet combine in representation of the view that proof of Christianity (the proof) is constituted by the whole historical appearance of this religion among mankind.

The Life and Writings of Alexander Vinet. By LAURA M. LANE. With Introduction by Dean FARRAR. Post 8vo. Nett \$2.00

'I may say without hesitation that readers will here find a deeply interesting account of a sincere and brilliant thinker. . . . The publication of this book will be a pure gain, if it calls the attention of fresh students to the writings of a theologian so independent as Vinet was, yet so supreme in his allegiance to the majesty of truth.'—Dean FARRAR.

The Work of the Holy Spirit in Man. By Pastor G. TOPHEL, Geneva. Crown 8vo. Nett \$1.00

'These pages are replete with clear, mellow, tender, beautiful, elevating thoughts, eminently instructive to inquiring minds, and such as the devout must delight contemplatively and prayerfully to linger upon.'—*Baptist Magazine*.

Mediæval Missions. By Professor T. SMITH, D.D., Edinburgh. Crown 8vo. Nett \$1.25

'This is a work which will well repay careful study.'—*Watchman*.

The Kingdom of God: A Plan of Study. By F. HERBERT STEAD, M.A. (*Bible-Class Primers*.) Three parts in One Vol. Nett 50 cents

'It is a plan well worth a trial from every Bible-class teacher.'—*Expository Times*.

A Chronological and Geographical Introduction to the Life of Christ. By C. E. CASPARI. 8vo. \$2.25

'The work is handy, and well suited for the use of the student.'—*Guardian*.

The Christian Doctrine of Sin. By Dr. JULIUS MÜLLER. Two Vols. 8vo. Nett \$4.50

The Form of the Christian Temple: Being a Treatise on the Constitution of the New Testament Church. By T. WITHEROW, D.D., LL.D. 8vo. Nett \$1.75

'A model of clear writing, and of satisfactory arrangement.'—*Record*.

Modern Pantheism. Essay on Religious Philosophy. Translated from the French of EMILE SAISSET. Two Vols. 8vo. Nett \$4.00

Christmas Eve: A Dialogue on the Celebration of Christmas. By SCHLEIERMACHER. Translated by Professor HASTIE, D.D. Crown 8vo. Nett 75 cents

'A genuine Christmas book, an exquisite prose-poem.'—*Baptist Magazine*.

Studies in the Christian Evidences: Being Apologetics for the Times. By ALEX. MAIR, D.D. Third Edition. Revised and Enlarged. Crown 8vo. Nett \$1.75

N.B.—For this book the American Tract Society awarded to the Author the George Wood Gold Medal and Premium, as 'the publication of that year best fitted to promote the glory of Christ as the Son of God and the Saviour of sinners.'

The Lord's Supper: Its Origin, Nature, and Use. By Rev. J. P. LILLEY, M.A. Crown 8vo. Nett \$1.50

'Mr. Lilley supplies us with an excellent and much-needed book. . . . Altogether the volume can be cordially recommended to all who seek clear and reasonable views on the Sacrament.'—Professor MARCUS DODS, D.D., in the *Expositor*.

Words to Young Christians: Addresses to Young Communicants. By G. E. TROUP, M.A. On antique laid paper. Handsomely bound. Crown 8vo. Nett \$1.25

'These addresses have a most fascinating charm. Full of literary grace, spiritual insight, and moral elevation.'—*Review of the Churches*.

Homiletic: Lectures on Preaching. By Professor T. CHRISTLIEB, Bonn University, Author of 'Modern Doubt and Christian Belief.' Post 8vo. Nett \$2.25

'A new manual of Homiletic was greatly needed. . . . Surely he is a foolish man, and a pitiless preacher, who would despise the knowledge which such a master in the art of preaching could impart to him.'—*Expository Times*.

Scenes from the Life of Jesus. By Pastor E. LEHMANN. Crown 8vo. Nett \$1.00

'There is in these lectures a tender sympathy, and a spiritual devoutness and simplicity, which gives to them a real charm.'—*Literary World*.

The World of Prayer; or, Prayer in relation to Personal Religion. By Bishop MONRAD. Crown 8vo. Nett \$1.25

'One of the richest devotional books that we have read.'—*Prim. Meth. Magazine*.

So Great Salvation. By Rev. G. H. C. MACGREGOR, M.A., London. With Introduction by Principal MOULE. Neatly bound in cloth. Nett 40 cents

'The truth rings from the very first page, and its note is very clear and convincing.'—*Expository Times*.

The Doctrine of Divine Love; or, Outlines of the Moral Theology of the Evangelical Church. By ERNEST SARTORIUS, D.D., Senior Court Preacher at Königsberg. 8vo. Nett \$2.25

'An exhaustive treatise, handled with the inevitable copiousness of a favourite subject.'—*Saturday Review*.

Principles of New Testament Quotation. By J. SCOTT,
D.D. Crown 8vo. Second Edition. Nett \$1.25

'In terse and well-ordered style the author deals with a subject too little studied and less understood.'—*Record*.

The Free Church of Scotland: Her Origin, Founders, and Testimony. By PETER BAYNE, LL.D. New and Cheaper Edition. Nett \$1.25

'Among the books called forth by the great northern Jubilee, this is by far and away the first. . . . We have seldom read a book with such a glow, with such a lofty, moral, and spiritual fervour.'—*Review of the Churches*.

The Scripture Doctrine of the Church Historically and Exegetically Considered. By D. D. BANNERMAN, D.D. 8vo. Nett \$2.50

'Dr. Bannerman has executed his task with commendable impartiality and thoroughness. His learning is ample, his materials have been carefully sifted and clearly arranged, his reasoning is apt, lucid, and forcible, while he has none of the bitterness which so frequently mars controversial works of this class.'—*Baptist Magazine*.

The Text of Jeremiah ; or, A Critical Investigation of the Greek and Hebrew, with the Variations in the LXX. retranslated into the Original and explained. By Prof. G. C. WORKMAN, M.A. With Introduction by Prof. F. DELITZSCH, D.D. Post 8vo. Nett \$1.50

'The most painstaking and elaborate illustration of the application of his principles to this end that has yet been given to the world. . . . Scholars will hail it with gratitude, and peruse it with interest.'—*Guardian*.

The Doctrine of the Apccalypse. By Pastor H. GEBHARDT. 8vo. Nett \$2.25

The Doctrine of the Holy Spirit. By the late Prof. GEO. SMEATON, D.D., Edinburgh. 8vo. Second Edition. \$3.00

'A valuable monograph. . . . The masterly exposition of doctrine given in these lectures has been augmented in value by the wise references to current needs and common misconceptions.'—*Brit. and For. Evangelical Review*.

System of the Christian Certainty. By Prof. F. H. R. FRANK, Erlangen. 8vo. Nett \$2.25

'No weightier or more valuable theological work has come to us from Germany since the publication of Dr. Dorner's "Christian Doctrine."—*Literary World*.

Elements of Logic as a Science of Propositions. By E. E. C. JONES, Lecturer in Moral Sciences, Girton College, Cambridge; Joint-Translator and Editor of Lotze's *Microcosmus*. 8vo. Nett \$2.00

'We must congratulate Girton College upon the forward movement of which the publication of this work is one of the first steps.'—*Cambridge Review*.

Encyclopædia of Theology. By Professor J. F. RÄBIGER, D.D. Two Vols. 8vo. Nett \$4.50

'Räbiger's Encyclopædia is a book deserving the attentive perusal of every divine. . . . It is at once instructive and suggestive.'—*Athenæum*.

Historical Theology: A Review of the Principal Doctrinal Discussions in the Christian Church since the Apostolic Age. By the late Principal WM. CUNNINGHAM, D.D., Edinburgh. Two Vols. 8vo. Second Edition. Nett \$3.50

The Servant of Jehovah. A Commentary upon Isaiah lii. 13–liii. 12. With Dissertations upon the Authorship of Isaiah xl.–lxvi., etc. By W. URWICK, M.A., Tutor in Hebrew, New College, London. 8vo. Nett \$1.25

'A work of great and permanent value.'—*Weekly Review*.

Is Christ Infallible and the Bible True? (Giving the Teaching of Jesus on Holy Scripture, and other burning Questions in Theology and Religious Life.) By Rev. HUGH M'INTOSH, M.A., London. Post 8vo. Nett \$3.00

'Such a title is calculated to arrest attention and awaken interest. Nor will any one who reads the book find his attention allowed to flag or his interest to wane, for the points discussed are in themselves most attractive and important, whilst the method of treatment is both vigorous and vivid.'—*Presbyterian*.

BISHOP MARTENSEN'S WORKS.

'The greatest Scandinavian, perhaps the greatest Lutheran, divine of our century.'—EXPOSITOR.

Christian Ethics. Three Vols. 8vo. Each nett \$2.25
 Volume I. GENERAL ETHICS.—II. INDIVIDUAL ETHICS.—III. SOCIAL ETHICS.

'Dr. Martensen's work on Christian Dogmatics reveals the strength of thought as well as the fine literary grace of its author. . . . His chief ethical writings comprise a system of Christian Ethics, general and special, in three volumes. Each of these volumes has great and singular excellence, and it might be generally felt that in them the author has surpassed his own work on "Christian Dogmatics."'—Principal CAIRNS.

Christian Dogmatics. One Vol. 8vo. Nett \$2.25

'The famous "Dogmatics," the eloquent and varied pages of which contain intellectual food for the laity no less than for the clergy. . . . His "Christian Dogmatics" has exercised as wide an influence on Protestant thought as any volume of our century.'—*Expositor*.

Inspiration, and other Lectures. By the late President T. GEORGE ROOKE, B.A., Rawdon College. Edited by Two of HIS STUDENTS. One Vol. 8vo. Nett \$2.25

'Intrinsically good. . . . The chapters on pastoral work glow with a whole-hearted devotion. The counsels given are excellent.'—*London Quarterly Review*.

The First Epistle of St. John: A Contribution to Biblical Theology. By Professor ERICH HAUPT. 8vo. Nett \$2.25

The Atonement and Intercession of Christ. By the late Principal DAVID C. DAVIES, M.A., Trevecca. Edited by D. E. JENKINS, Portmadoc. Crown 8vo. Nett \$1.25

'Can hardly fail to be helpful to all who wish to understand what the Bible teaches concerning the most profound and important of all subjects—that of the atonement.'—*American Journal of Theology*.

'It is an able defence and exposition of orthodox doctrine—substitution and propitiation. . . . Full of suggestion and edification.'—*Methodist Times*.

Our Father's Kingdom: Lectures on the Lord's Prayer. By C. B. ROSS, B.D., Lachine, Canada. Crown 8vo. Nett 75 cents

'This is the book to get for clear and simple presentation of the best modern expository work on this all-important section of the Gospels.'—*Expository Times*.

Works of John Calvin. COMMENTARIES. Forty-Five Vols.
 TRACTS ON THE REFORMATION. Three Vols. Per Vol. Nett \$2.25
 THE INSTITUTES. Translation. Two Vols. Nett \$4.50
 THE INSTITUTES. Latin. Two Vols. Tholuck's Edition. Nett \$4.50

Beyond the Stars; or, Heaven, its Inhabitants, Occupations, and Life. By President T. HAMILTON, D.D., Queen's College, Belfast.
 Crown 8vo. Fourth Edition. Nett \$1.25

'His writing is solid, he dissipates dreams, but he establishes authorised hopes. . . . This is a book which a believer will enjoy all the more when he draws nearer to those blessed fields "beyond the stars."'—Mr. SPURGEON in *Sword and Trowel*.

Growth of the Spirit of Christianity, to the Dawn of the Lutheran Era. By G. MATHESON, D.D., Edinburgh. Two Vols. 8vo. Nett \$6.00

'Fresh, vigorous, learned, and eminently thoughtful.'—*Contemporary Review*.

A Popular Introduction to the History of Christian Doctrine. By Rev. T. G. CRIPPEN. 8vo. Nett \$2.50

'A clear and intelligible account of the course of religions from the earliest times to our own.'—*Freeman*.

The Theology and Theologians of Scotland, chiefly of the 17th and 18th Centuries. By J. WALKER, D.D. Crown 8vo. Nett \$1.00

A Critical and Exegetical Commentary on the Book of Psalms. By Prof. J. G. MURPHY, LL.D. 8vo. Nett \$3.00

The Exiles' Book of Consolation. (Deutero-Isaiah). By Professor ED. KÖNIG, D.D., University of Rostock. Crown 8vo. Nett \$1.25

'The appearance of this book is most opportune. . . . The views of Professor König upon the interesting questions he discusses are sure to receive the careful attention of scholars of every shade of critical opinion.'—*Expository Times*.

The Symbolic Parables of the Apocalypse. By Mrs. STEVENSON. Crown 8vo. Nett \$1.25

AN IMPORTANT MAGAZINE.

THE EXPOSITORY TIMES.

Editor—REV. JAMES HASTINGS, M.A., D.D.

THE purpose of *The Expository Times* is to record the results of the best study of the Bible in the present day, in an interesting and practically useful form; and to stimulate and guide both ministers and laymen towards a fuller, more accurate, more fruitful study of the same inexhaustible precious library.

Published Monthly by T. & T. CLARK, price 15 cents. Annual subscription (prepaid), post free, \$1.50. Mailed direct to subscribers from Edinburgh. Bound Volumes, nett \$2.50.

'This excellent journal. . . . There is no more readable magazine dealing with biblical topics.'—President HARPER in the *Biblical World*.

'"The Expository Times" is probably the best publication in the English language to keep the student abreast of modern views in the exposition of Scripture.'—*Outlook* (N.Y.).

Send for free sample copy.

Subscriptions received by

CHARLES SCRIBNER'S SONS,
 153, 155, and 157 Fifth Avenue, New York City,
 SOLE AGENTS FOR THE UNITED STATES.

Handbooks for Bible Classes and Private Students.

Edited by Prof. MARCUS DODS, D.D., and ALEX. WHYTE, D.D.

'I name especially the admirable Handbooks for Bible Classes issued by T. & T. Clark of Edinburgh. They are very cheap, and among them are some books unsurpassed in their kind.' Dr. W. ROBERTSON NICOLL in the *British Weekly*.

'Sound, intelligible, and sometimes brilliantly written handbooks, packed with wisdom and knowledge.'—*Methodist Recorder*.

'These volumes are models of the *multum in parvo* style.'—*Literary World*.

The Prices detailed below are Nett.

COMMENTARIES—

Professor MARCUS DODS, D.D. <i>Genesis</i> . \$.60	Principal T. M. LINDSAY, D.D. <i>Mark</i> . \$.75
JAS. MACGREGOR, D.D. <i>Exodus</i> . 2 Vols. Ea. .60	Prin. T. M. LINDSAY, D.D. <i>St. Luke</i> . 2
Principal DOUGLAS, D.D. <i>Joshua</i> . .45	Vols.—Vol. I., \$.60. Vol. II., .45
Judges. .45	GEO. REITH, D.D. <i>St. John</i> . 2 Vols. Each .60
Prof. J. G. MURPHY, LL.D. <i>Chronicles</i> . .45	Prin. T. M. LINDSAY, D.D. <i>Acts</i> . 2 Vols. Ea. .45
Rev. JAMES AITKEN, M.A. <i>Job</i> . .45	Principal BROWN, D.D. <i>Romans</i> . .60
Professor MARCUS DODS, D.D. <i>Haggai, Zechariah, Malachi</i> . .60	JAMES MACGREGOR, D.D. <i>Galatians</i> . .45
Principal DOUGLAS, D.D. <i>Obadiah to Zephaniah</i> . .45	Professor J. S. CANDLISH, D.D. <i>Ephesians</i> . .45
	Professor A. B. DAVIDSON, D.D. <i>Hebrews</i> . .75
	J. P. LILLEY, D.D. <i>The Pastoral Epistles</i> . .75

GENERAL SUBJECTS—

Prof. JAMES STALKER, D.D. <i>The Life of Christ</i> . \$.45	Rev. JOHN MACPHERSON, M.A. <i>The Sum of Saving Knowledge</i> . \$.45
<i>The Life of St. Paul</i> . .45	<i>The Confession of Faith</i> . .60
(Large-type Editions, price \$1.50 each, see p. 17.)	<i>Presbyterianism</i> . .45
ALEXANDER WHYTE, D.D. <i>The Shorter Catechism</i> . .75	President HAMILTON, D.D. <i>History of the Irish Presbyterian Church</i> . .60
Professor J. S. CANDLISH, D.D. <i>The Christian Sacraments</i> . .45	A. TAYLOR INNES, M.A., Advocate. <i>Church and State</i> . .75
<i>The Christian Doctrine of God</i> . .45	Rev. J. FEATHER. <i>The Last of the Prophets—John the Baptist</i> . .60
<i>The Work of the Holy Spirit</i> . .45	Rev. W. FAIRWEATHER, M.A. <i>From the Exile to the Advent</i> . .60
<i>The Biblical Doctrine of Sin</i> . .45	Professor J. LAIDLAW, D.D. <i>Foundation Truths of Scripture as to Sin and Salvation</i> . .45
NORMAN L. WALKER, D.D. <i>Scottish Church History</i> . .45	Rev. L. A. MUIRHEAD, B.D. <i>The Times of Christ</i> . .60
Rev. W. D. THOMSON, M.A. <i>The Christian Miracles and the Conclusions of Science</i> . .60	J. P. LILLEY, D.D. <i>The Principles of Protestantism</i> . .75
GEORGE SMITH, LL.D., F.R.G.S., C.I.E. <i>History of Christian Missions</i> . .75	Rev. J. STRACHAN. <i>Hebrew Ideals from the Story of the Patriarchs</i> . 2 Vols. \$.60 each; or bound together, \$1
ARCHIBALD HENDERSON, D.D. <i>Palestine: Its Historical Geography</i> . .75	DAVID M. ROSS, D.D. <i>The Teaching of Jesus</i> . .60
Prin. T. M. LINDSAY, D.D. <i>The Reformation</i> . .60	
Professor BINNIE, D.D. <i>The Church</i> . .45	
Professor T. B. KILPATRICK, D.D. <i>Butler's Three Sermons on Human Nature</i> . .45	
Rev. W. SCRIMGEOUR, M.A. <i>Lessons on the Life of Christ</i> . .75	

Edited by Principal SALMOND, D.D. Each Nett 20 cents.

BIBLE CLASS PRIMERS.

'An admirable series of *Bible Class Primers*. . . Each new number is a distinct addition to the cause of intelligent Christianity.'—*Biblical World* (Chicago).

'A most useful series. With such helps as these, to be an inefficient teacher is to be blameworthy.'—Rev. C. H. SPURGEON.

The Covenanters, by J. BEVERIDGE, B.D.—Eli, Samuel, and Saul, by C. A. SALMOND, D.D.—Ezekiel, by HARVIE JELLIE, B.D.—Jeremiah, by J. ROBSON, D.D.—History of Egypt, by Prof. R. G. MURISON, B.D.—The Minor Prophets, by J. ADAMS, B.D.—History of Babylonia and Assyria, by Prof. ROSS G. MURISON, M.A.—The Mosaic Tabernacle, by J. ADAMS, B.D.—The History of the English Bible, by BURNETT THOMSON.—The Exile and the Restoration, by Prof. A. B. DAVIDSON, LL.D.—Geography of Palestine, by S. R. MACPHERSON, D.D.—Our Lord's Illustrations, by R. RESKER.—Bijah and Elisha, by R. G. MACINTYRE, B.D.—The Miracles of our Lord, by Prof. J. LAIDLAW, D.D.—Christian Conduct; Christian Character: A Study in New Testament Morality, by T. B. KILPATRICK, D.D.—The Free Church of Scotland, by C. G. M'CRIC, D.D.—The Truth of Christianity, by Prof. J. IVERACH, D.D.—The Making of Israel, by C. A. SCOTT, B.D.—The Sabbath, by the EDITOR.—Our Christian Passover, by C. A. SALMOND, D.D.—The Kingdom of God, *Three Parts* (or bound in one vol., 45 cents), by F. HERBERT STRAD, M.A.—The Parables of our Lord, by the EDITOR.—Life of St. John, by PATON J. GLOAG, D.D.—The Story of Jerusalem, by H. CALLAN, M.A.—Life of Abraham, by C. A. SCOTT, B.D.—Historical Connection between the Old and New Testaments, by Prof. J. SKINNER, D.D.—Life of Christ, by the EDITOR.—The Shorter Catechism, *Three Parts* (or bound in one vol., 45 cents), by the EDITOR.—The Period of the Judges, by Prof. J. PATERSON, D.D.—Outlines of Protestant Missions, by J. ROBSON, D.D.—The Apostle Peter, by the EDITOR.—Outlines of Early Church History, by H. W. SMITH, D.D.—David, by P. THOMSON, M.A.—Moses, by Princ. J. IVERACH, D.D.—Paul, by P. J. GLOAG, D.D.—Solomon, by R. WINTERBOTHAM, LL.D.—Reformation, by Prof. WITHEROW.—Kings of Israel, by W. WALKER, M.A.—Kings of Judah, by Prof. GYVEN.—Joshua and the Conquest, by Prof. CROOKERY.

Extra Vols.—Bible Words and Phrases, by C. MICHIE, M.A. 40 cents.—The Seven Churches of Asia, by DEBORAH ALCOCK. 40 cents.

THE ANTE-NICENE CHRISTIAN LIBRARY.

The Ante-Nicene Christian Library. A Collection of all the Works of the Fathers of the Christian Church prior to the Council of Nicæa. Edited by the Rev. Professor ROBERTS, D.D., and Principal JAMES DONALDSON, LL.D., St. Andrews. In Twenty-four handsome 8vo Vols. Per Vol. Nett \$2.25

This Series has been received with marked approval by all sections of the Christian Church in this country and in the United States, as supplying what has long been felt to be a want, and also on account of the impartiality, learning, and care with which Editors and Translators have executed a very difficult task.

The following Works are included in the Series:—

Apostolic Fathers, comprising Clement's Epistle to the Corinthians; Polycarp to the Ephesians; Martyrdom of Polycarp; Epistles of Barnabas; Epistles of Ignatius (longer and shorter, and also the Syriac Version); Martyrdom of Ignatius; Epistle to Diognetus; Pastor of Hermas; Papias; Spurious Epistles of Ignatius. One Volume. **Justin Martyr; Athenagoras.** One Volume. **Tatian; Theophilus; The Clementine Recognitions.** One Volume. **Clement of Alexandria**, comprising Exhortation to Heathen; The Instructor; and the Miscellanies. Two Volumes. **Hippolytus**, Volume First; Refutation of all Heresies, and Fragments from his Commentaries. **Irenæus**, Volume First. **Irenæus** (completion) and **Hippolytus** (completion); Fragments of Third Century. One Volume. **Tertullian against Marcion.** One Volume. **Cyprian:** The Epistles and Treatises; **Novatian: Minucius Felix.** Two Volumes. **Origen:** De Principiis; Letters; Treatise against Celsus; and Life of Origen. Two Volumes. **Tertullian:** To the Martyrs; Apology; to the Nations, etc. Three Volumes. **Methodius: Alexander of Lycopolis; Peter of Alexandria Anatolius; Clement on Virginity;** and Fragments. One Volume. **Apocryphal Gospels, Acts, and Revelations;** comprising all the very curious Apocryphal Writings of the first three Centuries. One Volume. **Clementine Homilies: Apostolical Constitutions.** One Volume. **Arnobius.** One Volume. **Gregory Thaumaturgus; Dionysius; Archelaus; Syrian Fragments.** One Volume. **Lactantius;** together with the Testaments of the Twelve Patriarchs, and Fragments of the Second and Third Centuries. Two Volumes. **Early Liturgies and Remaining Fragments.** One Volume.

ST. AUGUSTINE'S WORKS.

The Works of Aurelius Augustine, Bishop of Hippo. Edited by MARCUS DODS, D.D. In Fifteen Vols. 8vo.

Per Vol. Nett \$2.25

The 'City of God.' Two Volumes.

Writings in connection with the Donatist Controversy. One Volume.

The Anti-Pelagian Works. Three Volumes.

Treatises against Faustus the Manichæan. One Volume.

On the Trinity. One Volume.

Commentary on John. Two Volumes.

The Harmony of the Evangelists, and the Sermon on the Mount. One Volume.

'Letters.' Two Volumes.

On Christian Doctrine, Enchiridion, on Catechising, and on Faith and the Creed. One Volume.

'Confessions.' With Copious Notes by Rev. J. G. PILKINGTON.

'For the reproduction of the "City of God" in an admirable English garb we are greatly indebted to the well-directed enterprise and energy of Messrs. Clark, and to the accuracy and scholarship of those who have undertaken the laborious task of translation.'—*Christian Observer*.

N.B.—A Selection of Twelve Volumes from either or both of those Series may be had for \$24 nett.

'The ablest grammatical exegete of the age.'—PHILIP SCHAFF, D.D.

MEYER'S COMMENTARY ON THE NEW TESTAMENT.

'Meyer has been long and well known to scholars as one of the very ablest of the German expositors of the New Testament. We are not sure whether we ought not to say that he is unrivalled as an interpreter of the grammatical and historical meaning of the sacred writers. The Publishers have now rendered another seasonable and important service to English students in producing this translation.'—GUARDIAN.

Critical and Exegetical Commentary on the New Testament. By Dr. H. A. W. MEYER. Authorised Translation edited by Professor W. P. DICKSON, D.D. In Twenty handsome 8vo Vols. Per Vol. Nett \$2.25

ST. MATTHEW'S GOSPEL, Two Vols.; MARK AND LUKE, Two Vols.; ST. JOHN'S GOSPEL, Two Vols.; ACTS OF THE APOSTLES, Two Vols.; ROMANS, Two Vols.; CORINTHIANS, Two Vols.; GALATIANS, One Vol.; EPHESIANS AND PHILEMON, One Vol.; PHILIPPIANS AND COLOSSIANS, One Vol.; THESSALONIANS, One Vol.; TIMOTHY AND TITUS, One Vol.; HEBREWS, One Vol.; JAMES AND JOHN, One Vol.; PETER AND JUDE, One Vol.

BENGEL'S GNOMON.

'Stands out among the exegetical literature not only of the eighteenth century, but of all centuries, for its masterly terseness and precision, and for its combination of spiritual insight with the best scholarship of his time.'—Professor W. SANDAY, D.D., Oxford.

Gnomon of the New Testament. By JOHN ALBERT BENGEL. Translated into English. With Original Notes, Explanatory and Illustrative. Edited by Rev. A. R. FAUSSET, M.A. The Original Translation, Five large Vols. 8vo. Nett \$9.00

STIER'S WORDS OF THE LORD JESUS.

The Words of the Lord Jesus. By Dr. RUDOLPH STIER. Eight Vols. 8vo. Nett \$18.00

The Words of the Risen Saviour. 8vo. Nett \$2.25

The Words of the Apostles. 8vo. Nett \$2.25

'The whole work is a treasury of thoughtful exposition. Its measure of practical and spiritual application, with exegetical criticism, commends it to the use of those whose duty it is to preach as well as to understand the Gospel of Christ.'—Guardian.

BY F. W. KRUMMACHER, D.D.

The Suffering Saviour; or, Meditations on the Last Days of the Sufferings of Christ. Cr. 8vo. Eighth Edition. Nett \$1.75

David, the King of Israel. A Portrait drawn from Bible History and the Book of Psalms. Cr. 8vo. Second Edition. Nett \$1.75

LANGE'S LIFE OF CHRIST.

The Life of the Lord Jesus Christ: A Complete Critical Examination of the Origin, Contents, and Connection of the Gospels. By Prof. J. P. LANGE, D.D., of Bonn. Edited, with additional Notes, by MARCUS DODS, D.D. Four Vols. 8vo.

Nett \$9.00

'Stands in the front rank of lives of Christ; it first presents the life of Christ as given in the four Gospels together, and then as given by each Gospel separately from its peculiar standpoint.'—Principal A. CAYE, D.D.

SPECIAL OFFER.**TEN VOLUMES for TWENTY DOLLARS.****The Foreign Theological Library.**

THIS Series comprises Authorised Translations of the principal Works of the leading Continental Theologians. It is believed that the publication of this 'Library' has had considerable influence upon the progress of theological science in Great Britain and America.

The BISHOP OF GLOUCESTER AND BRISTOL, with regard to Sacred Study, says: 'It may be of some little service to the reader if I mention the long and valuable series of Commentaries on, I believe, every book of the Old Testament, that will be found translated from the German in the comprehensive Foreign Theological Library of Messrs. Clark of Edinburgh. The same Library may be mentioned in reference to the New Testament.'

President W. R. HARPER, of Chicago University, writes: '**THE FOREIGN THEOLOGICAL LIBRARY** has exercised a great influence upon the biblical studies in this country and in England. It has introduced to students of the Scriptures some of the best work of German theologians and critics. The forty-five years of publication, at the rate of four volumes yearly, is an achievement to look back upon with pride, and the belief of the Messrs. Clark, that "through the care with which books have been selected, the series has exercised a healthful influence upon the progress of theological science," is amply justified. It is gratifying to learn that they do not propose entirely to give up this special work of publishing such translations, but will discontinue the serial publication, issuing books irregularly, as occasion offers.'

The Series being now completed, Messrs. Clark are desirous of bringing it within the reach of every biblical student, and they have therefore decided to offer any **TEN VOLUMES for TWENTY DOLLARS**, or a larger number at the same ratio. The published price of each Volume (with one or two exceptions) is \$2.25 nett.

A complete list of the Series (173 Vols. in all) will be found on the opposite page, but Messrs. Clark invite special attention to the Standard Works mentioned below:—

History of the Jewish People in the Time of Jesus Christ.

By Prof. E. SCHÜRER, D.D., University of Göttingen. Complete in 5 Vols. 8vo. INDEX VOL. 75 cents nett (100 pp. 8vo).

'Recognised as the standard authority on the subject.'—*Critical Review*.

'Every English commentary has for some years contained references to "Schürer" as the great authority upon such matters. . . . There is no guide to these intricate and difficult times which even approaches him.'—*Record*.

Christian Dogmatics, 1 Vol.—Christian Ethics, 3 Vols. (GENERAL, INDIVIDUAL, SOCIAL). By H. MARTENSEN, D.D., Bishop of Seeland.

'The greatest Scandinavian, perhaps the greatest Lutheran, divine of our century. The famous "Dogmatics," the eloquent and varied pages of which contain intellectual food for the laity no less than for the clergy. . . . His "Christian Dogmatics" has exercised as wide an influence on Protestant thought as any volume of our century.'—*Expositor*.

Handbook of Biblical Archæology. By Prof. C. F. KIEL. 2 Vols.

'No mere dreary mass of details, but a very luminous, philosophical, and suggestive treatise. Many chapters are not simply invaluable to the student, but have also very direct homiletic usefulness.'—*Literary World*.

The Words of the Lord Jesus, 8 Vols. 8vo (or the 8 Vols. bound in 4).

—**The Words of the Risen Saviour.—The Words of the Apostles.** By Dr. RUDOLPH STIER.

'The whole work is a treasury of thoughtful exposition.'—*Guardian*.

Professor Godet's Commentaries on St. Luke, 2 Vols.; St. John, 3 Vols.; and 1st Corinthians, 2 Vols.

'For devotional warmth and practical application, Godet is perhaps unsurpassed by any modern commentator among foreign Protestants.'—*Guardian*.

Professor Dorner's 'System of Christian Doctrine,' 4 Vols.; and 'Doctrine of the Person of Christ,' 5 Vols.**Professor Weiss's 'Life of Christ,' 3 Vols.; and 'Biblical Theology,' 2 Vols.**

Clark's Foreign Theological Library.

Octavo, cloth, price \$2.25 per Volume, nett. Any Ten Volumes for \$20.00 nett.

- Baumgarten—The History of the Church in the Apostolic Age. Three vols.
 Bleek—Introduction to the New Testament. Two vols.
 Oassel's Commentary on Esther. One vol.
 Delitzsch—New Commentary on Genesis. Two vols.
 ——— Commentary on the Psalms. Three vols.
 ——— Commentary on the Proverbs of Solomon. Two vols.
 ——— Commentary on Song of Solomon and Ecclesiastes. One vol.
 ——— Commentary on the Prophecies of Isaiah. Two vols. (Only Translation of the Fourth and last Edition.)
 ——— Commentary on Epistle to the Hebrews. Two vols.
 ——— A System of Biblical Psychology. One vol.
 Dorner—A System of Christian Doctrine. Four vols.
 ——— History of the Development of the Doctrine of the Person of Christ. Five vols.
 Ebrard—Commentary on the Epistles of St. John. One vol.
 ——— The Gospel History. One vol.
 ——— Apologetics. Three vols.
 Ewald—Revelation: Its Nature and Record. One vol.
 ——— Old and New Testament Theology. One vol.
 Frank's System of Christian Certainty. One vol.
 Gebhardt—Doctrine of the Apocalypse. One vol.
 Gerlach—The Pentateuch. One vol.
 Godet—Commentary on St. Luke's Gospel. Two vols.
 ——— Commentary on St. John's Gospel. Three vols.
 ——— Commentary on the Epistle to the Romans. Two vols.
 ——— Commentary on First Corinthians. Two vols.
 Goebel—On the Parables. One vol.
 Hagenbach—History of the Reformation. Two vols.
 ——— History of Christian Doctrines. Three vols.
 Harless—A System of Christian Ethics. One vol.
 Haupt—Commentary on the First Epistle of St. John. One vol.
 Hävernicks—General Introduction to the Old Testament. One vol.
 Hengstenberg—Christology of the Old Testament. Four vols.
 ——— Commentary on the Psalms. Three vols.
 ——— On the Book of Ecclesiastes. Etc. etc. One vol.
 ——— Commentary on the Gospel of St. John. Two vols.
 ——— Commentary on Ezekiel. One vol.
 ——— On the Genuineness of Daniel. One vol.
 ——— The Kingdom of God under the Old Covenant. Two vols.
 Keil—Introduction to the Old Testament. Two vols.
 ——— Commentary on the Pentateuch. Three vols.
 ——— Commentary on Joshua, Judges, and Ruth. One vol.
 ——— Commentary on the Books of Samuel. One vol.
 ——— Commentary on the Books of Kings. One vol.
 ——— Commentary on the Books of Chronicles. One vol.
 ——— Commentary on Ezra, Nehemiah, and Esther. One vol.
 ——— Commentary on Jeremiah and Lamentations. Two vols.
 ——— Commentary on Ezekiel. Two vols.
 ——— Commentary on the Book of Daniel. One vol.
 ——— Commentary on the Minor Prophets. Two vols.
 ——— Biblical Archaeology. Two vols.
 Kurtz—History of the Old Covenant; or, Old Testament Dispensation. Three vols.
 Luthardt—Commentary on the Gospel of St. John. Three vols.
 ——— History of Christian Ethics. One vol.
 Martensen—Christian Dogmatics. One vol.
 ——— Christian Ethics. General—Social—Individual. Three vols.
 Müller—The Christian Doctrine of Sin. Two vols.
 Oehler—Biblical Theology of the Old Testament. Two vols.
 Orelli—Prophecy regarding Consummation of God's Kingdom. One vol.
 ——— Commentary on Isaiah. One vol.
 ——— Commentary on Jeremiah. One vol.
 ——— The Twelve Minor Prophets. One vol.
 Philippi—Commentary on Epistle to Romans. Two vols.
 Rübiger—Encyclopædia of Theology. Two vols.
 Sartorius—The Doctrine of Divine Love. One vol.
 Schürer—The Jewish People in the Time of Christ. Five vols. and Index.
 Steinmeyer—History of the Passion and Resurrection of our Lord. One vol.
 Stier—The Words of the Lord Jesus. Eight vols.
 ——— The Words of the Risen Saviour, and Commentary on Epistle of St. James. One vol.
 ——— The Words of the Apostles Expounded. One vol.
 Weiss—Biblical Theology of the New Testament. Two vols.
 ——— The Life of Christ. Three vols.

INDEX

Adams, Prof. J., Primer on Teaching	6	Kidd, Dr. J., Morality and Religion	15
Adamson, Rev. R. M., The Lord's Supper	2	Kilpatrick, Prof. T. B., Christian Character	5
Adamson, Dr. T., Spirit of Power	28	König, Prof. Ed., Exiles' Book of Consolation	34
Alexander, W. I., Biblical Theology	27	Krummacker, Dr. F. W., Works by	25 and 35
Ancient Faith in Modern Light, The	27	Laidlaw, Prof. J., Works by	7
Ante-Nicene Christian Library	36	Lambert, J. C., The Sacraments	37
Augustine, St., Works of	36	Lange, Prof. J. P., Life of Christ	20
Bain, J. A., M.A., New Reformation	2	Lechler, Prof., Apostolic Times	31
Balfour, Dr. R. G., Central Truths	27	Lehmann, Pastor, Scenes from Life of Jesus	7
Bali, W. E., L.L.D., St. Paul and Roman Law	17	Lidgett, Rev. J. S., The Fatherhood of God	31 and 35
Ballard, Frank, The Miracles of Unbelief	5	Lilley, Dr. J. F., Works by	9
Bannerman, Dr. D. D., Doctrine of the Church	32	Lillie, Arthur, Buddha	9 and 35
Barty, J. W., L.L.D., Duty of Christian Churches	32	Lindsay, Principal T. M., Works by	13
Bayne, Dr. Peter, Free Church of Scotland	32	Lotze, Hermann, Microcosmos	27 and 39
Beck, Prof., Works by	26	Luthardt, Prof., Works by	31
Beogel's Gnomon	37	Macgregor, G. H. C., So Great Salvation	30
Beveridge, W., The Westminster Assembly	12	Macgregor, Dr. Jas., Works by	9
Beyschlag, Prof. W., New Testament Theology	35	M'Hardy, Dr. G., Savonarola	33
Bible Class Handbooks	35	M'Intosh, Hugh, Is Christ Infallible?	9
Bible Class Primers	35	Mackintosh, Prof. R., Hegel	19
Blake, Buchanan, Works by	22	Macpherson, J., Works by	31
Broekelman's Syriac Lexicon	13	Mair, Dr. A., Christian Evidences	33 and 39
Bruce, Prof. A. B., Works by	17	Martensen, Bishop, Works by	34
Bruce, Canon R., Apostolic Order	10	Matheson, Dr. G., Growth of the Spirit of Christianity	37
Bruce, Dr. W. S., Works by	12	Meyer, Commentary on New Testament	17
Caldecott and Mackintosh, Profs., Theism	11	Milligan, Dr. G., Theology of Epistle to the Hebrews	30
Calvin, John, Works of	34	Milligan, Prof. W., Resurrection of the Dead	6
Candlish, Prof. J. S., Works by	8, 27, and 35	Moffatt, Dr. J., The Historical New Testament	31
Caspari, C. E., Life of Christ	30	Monrad, Bishop, World of Prayer	12
Caspers, Footsteps of Christ	28	Moulton-Geden, Concordance to Greek Testament	3
Cave, Prof., Works by	22	Moulton, Dr. J. H., Grammar of New Testament Greek	7 and 35
Chapman, Principal C., Pre-Organic Evolution	31 and 39	Muirhead, Dr. L. A., Times of Christ	25
Christlieb, Prof., Works by	9	Müller, Prof., Doctrine of Sin	17
Clark, Prof. W. W., Pascal	13	Naville, Ernest, Works by	39
Concordance to the Greek Testament	13	Nicoll, W. R., L.L.D., The Incarnate Saviour	39
Cooper-Maclean, The Testament of our Lord	21	Oehler, Prof., Theology of the Old Testament	24
Crawford, J. H., Brotherhood of Man	13	Oosterzee, Dr. J. J. van, Works by	20 and 39
Cremer's Greek Lexicon	34	Orelli, Prof., Works by	9
Crippen, T. G., Christian Doctrine	20	Orr, Prof. J., David Hume	2
Curtiss, Prof., Works by	15	Patrick, Principal W., James	3
Dahle, Bishop, Life after Death	33	Plummer, Dr. A., Works by	3
Dalman, G., The Words of Jesus	14 and 35	Proffitt, W., The Creation of Matter	18
Davidson, Prof. A. B., Works by	33	Pünjer, Prof., Philosophy of Religion	32 and 39
Davies, Principal, Atonement	20 and 39	Purves, Dr. D., The Life Everlasting	14
Deane, W. J., Pseudepigrapha	2	Rabiger, Prof., Encyclopedia of Theology	3
Deissman, Prof. A., Bible Studies	35	Rainy, Principal, D.D., Christian Doctrine	3
Delitzsch, Prof. F., Works by	2	Rashdall, Dr. Hastings, Christus in Ecclesia	18
Deussen, Prof. F., Philosophy of the Upanishads	24	Reusch, Prof., Nature and the Bible	18
Dictionary of the Bible	23 and 39	Riehm, Dr., Messianic Prophecy	9
Dods, Prof. Marcus, Works by	5	Ritchie, Prof. D. G., Plato	5
Dods, Marcus, Forerunners of Dante	33	Ritschl, Albrecht, Justification, etc.	33
Döllinger, Ignaz von, Works by	29 and 39	Rooke, President, Inspiration, etc.	33
Dorner, Dr. L. A., Works by	27	Ross, Rev. C. B., Our Father's Kingdom	35
Drummond, Dr. R. J., Apostolic Teaching	23 and 39	Ross, Dr. D. M., Teaching of Jesus	28
Duff, Prof. D., The Early Church	28	Rothe, Prof., Sermons for the Christian Year	31
Eadie, Prof. J., Commentaries	29 and 39	Saisset, Emile, Modern Pantheism	8
Ebrard, Prof., Works by	9 and 35	Sanday, Prof. W., Life of Christ	15 and 35
Edgar, Dr. R. McC., A Risen Saviour	21	Salmond, Principal, Works by	7
Ewald, Prof., Works by	2	Sayce, Prof., Religion of Ancient Egyptians, etc.	12 and 39
Expository Times	38 and 29	Schultz, Prof., Old Testament Theology	23
Fairweather, W., Works by	2 and 6	Schürer, Prof., New Testament Times	6
Falconer, J. W., Apostle to Priest	8	Schwartzkopf, Dr. F., Christ's Prophecies	25
Ferries, Dr. George, Growth of Christian Faith	7	Scott, Dr. J., New Testament Quotation	26
Forbes, J. T., Socrates	16 and 39	Shaw, Dr. R. D., Pauline Epistles	26
Foreign Theological Library	28	Sime, James, Herschel	26
Forrest, Dr. D. W., Works by	19	Simon, Principal, Reconciliation by Incarnation	9
Funcke, Pastor, World of Faith	2 and 3	Smeaton, O., The Medici	35
Garvie, Prof. A. E., The Ritschlian Theology	28	Smith, Dr. G., History of Missions	9 and 30
Geere, H. V., Nile and Euphrates	3	Smith, Prof. T., Works by	15
Glog, Dr. Paton J., Works by	28	Smyth, Dr. J., Truth and Reality	9
Godet, Prof. F., Works by	2 and 3	Snell, F. J., Wesley and Methodism	21
Gotthold's Emblems	29	Somerville, Dr. D., St. Paul's Conception of Christ	25
Gwatkin, Prof., Works by	34	Stählin, L., Kant, Lotze, and Ritschl	17 and 35
Halcombe, J. J., The Gospels	27, 25, 29, and 31	Stalker, Prof. J., Works by	26
Hall, Newman, Works by	4 and 34	Stanton, Prof. V. H., The Messiah	30
Hamilton, President, Beyond the Stars	25	Stead, F. H., The Kingdom of God	23 and 39
Hastie, Prof. W., Works by	35	Steinmeyer, Prof., Works by	37 and 39
Hastings, Dr. James, Works by	11	Stier, Dr., Words of the Lord Jesus	18
Heard, J. B., Works by	6	Stirling, Dr. J. H., Works by	6
Hefele, Bishop, Church Councils	2	Strachan, J., Hebrew Ideals	31
Henderson, Dr. Arch., Palestine	21	Tophel, C., Work of the Holy Spirit	15
Henderson, H. F., Religious Controversies	9	Troup, G. E., To Young Christians	30
Hierless, Prof., Francis and Dominic	11	Ullmann, Dr. C., The Sinlessness of Jesus	2
Hill, Dr. J. H., St. Ephraem	2	Vinet, Life of	2
Hodgson, G., Primitive Christian Education	11	Walker, J. Dawson, Gift of Tongues	34
Hodgson, Principal, Theologia Pectoris	26	Walker, Dr. J., Scottish Theology	8
Holborn, Rev. A., The Pentateuch	3	Walker, W. L., Works by	18
Hudson, Prof., Rousseau	8 and 35	Warfield, Prof., Right of Systematic Theology	23 and 39
Hutchison, Dr. J., Works by	9 and 35	Weiss, Prof. B., Works by	9
Inge, Dr. W. R., Faith and Knowledge	35	Welch, A. C., Anselm	10 and 12
Innes, A. D., Crammer	9	Wendt, Prof. H. H., Works by	35
Innes, A. T., Works by	7	Whyte, Dr. Alex., Shorter Catechism	30 and 35
Iverach, Princ. J., Works by	12	Witherow, Dr. T., Works by	15
Johns, C. H. W., The Oldest Code of Laws	25	Woods, F. H., The Hope of Israel	32
Johnston, P. de L., Muhammad	29 and 39	Workman, Prof. G. C., Text of Jeremiah	9
Jordan, Louis H., Comparative Religion	10	World's Epoch-Makers, The	27
Kaftan, Prof., Truth of the Christian Religion	10	Wright, Dr. C. H., Biblical Essays	3
Kant, Immanuel, Works by		Zahn, Prof. Theodor, Sermons	
Keil, Prof., Biblical Archaeology			
Kennedy, Dr. J., The Note-Line			

